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Pernarr Macfadden

# KEEPING FIT •

BY

**BERNARR MACFADDEN**

AUTHOR OF "ENCYCLOPEDIA OF HEALTH," "HOME HEALTH LIBRARY,"  
"FASTING FOR HEALTH," "HAIR CULTURE," "STRENGTHENING  
THE EYES," "PREPARING FOR MOTHERHOOD," "PRACTICAL  
BIRTH CONTROL AND SEX PREDETERMINATION," AND  
OTHER WORKS ON HEALTH



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## A FOREWORD

**T**HE past few years have given the world many illuminating truths about health-building. Striking facts pertinent to diet, to weight control, to the prolonging of human life, and the protection of young and old against disease, have been disclosed in the past decade or two.

So, although the original edition of this book dates back scarce a dozen years, its complete rewriting has been necessary to reflect fully the results of modern research in matters closely related to mental and physical fitness.

The need of such information is as pressing now as in any prior time in mankind's history.

Man and woman, old and young, employer and employee alike, urgently require such knowledge to enable them to cope with conditions of life today.

In modern life, health of the highest possible degree is an imperative need.

This glorious gift of radiant health can only come with knowledge.

The purpose of this book is to teach the laws of life. You must know **WHAT** to eat, **HOW** to eat, **WHEN** to eat. You must know how to exercise your body in order to give it superabundant energy.

If you learn the lessons that are plainly presented in these pages, you will feel yourself growing stronger day by day. You will notice your eyes becoming brighter, your skin clear, your muscles firmer.

Gradually you will find yourself becoming a better and stronger and more capable man or woman, if you adhere to

the plain instructions that you will find clearly presented in these pages.

If you have radiant health, it makes you throb with super-abundant energy, gives you ambition, endurance, determination.

Your health may be below par. If so, your one object in life should be to find it again, and that means first of all better digestion, stronger heart, more vigorous lungs. It means that you must eat food that is properly assimilated, that you must take care of bodily organism in such a manner as to increase vitality day by day.

If you want to make something of yourself mentally, financially, spiritually you owe it to yourself to become so splendidly strong that you will be able to meet every situation.

Each day you will become more resourceful, more capable, more dependable in your sphere of life.

Success is meaningless unless it brings the happiness that comes with the making of a home. Radiant health naturally brings a happy home, but ill-health leads direct to the cemetery.

Superabundant health is yours for the asking, provided you learn how, and do the work required.

A handwritten signature in cursive script, reading "Bernarr Macfadden", with a long horizontal line extending from the end of the "d" in "Macfadden" to the right.

## CONTENTS

| CHAPTER  | PAGE |
|--|------|
| I. WHAT HEALTH IS WORTH TO YOU . . . . .               | 1    |
| II. EATING TO KEEP FIT . . . . .                       | 6    |
| III. EXERCISING TO KEEP FIT . . . . .                  | 22   |
| IV. BREATHING TO KEEP FIT . . . . .                    | 29   |
| V. KEEPING FIT BY BATHING . . . . .                    | 34   |
| VI. KEEPING FIT BY REST AND SLEEP . . . . .            | 42   |
| VII. KEEPING THE VITAL ORGANS FIT . . . . .            | 47   |
| VIII. KEEPING THE EYES FIT . . . . .                   | 53   |
| IX. MIND—A MASTER FORCE IN HEALTH OR DISEASE . . . . . | 57   |
| X. UNDERSTANDING AND OVERCOMING DISEASE . . . . .      | 62   |
| ADENOIDS AND ENLARGED TONSILS . . . . .                | 63   |
| ANEMIA: GOOD BLOOD AND HEALTH . . . . .                | 69   |
| ARTHRITIS AND ITS RELIEF . . . . .                     | 74   |
| ASTHMA—ITS CAUSES AND TREATMENT . . . . .              | 77   |
| BACKACHE AND ITS CAUSES . . . . .                      | 82   |
| BRONCHITIS—ITS RELIEF . . . . .                        | 87   |
| CATARRH AND ITS TREATMENT . . . . .                    | 91   |
| COLDS AND COUGHS . . . . .                             | 97   |
| CONSTIPATION AND ITS RELIEF . . . . .                  | 108  |
| DIABETES, ITS CAUSES AND EFFECTS . . . . .             | 115  |
| GALL-BLADDER DISEASE AND GALLSTONES . . . . .          | 118  |

## CONTENTS

|   | PAGE |
|---|------|
| HAY FEVER, ITS CAUSES AND RELIEF . . . . .      | 124  |
| HEART DISEASE AND HEALTH . . . . .              | 128  |
| HEMORRHOIDS (PILES) AND THEIR RELIEF . . . . .  | 138  |
| HIGH BLOOD PRESSURE—ITS RELIEF . . . . .        | 142  |
| HYDROCELE AND SIMILAR DISORDERS . . . . .       | 148  |
| INSOMNIA—ITS CAUSE AND TREATMENT . . . . .      | 150  |
| KIDNEY DISEASES AND KIDNEY STONES . . . . .     | 155  |
| THE LIVER IN HEALTH AND DISEASE . . . . .       | 164  |
| LOW BLOOD PRESSURE AND HEALTH . . . . .         | 167  |
| NEURALGIA—NEURITIS—PAINFUL NERVES . . . . .     | 171  |
| NEURASTHENIA AND ITS TREATMENT . . . . .        | 175  |
| OVERWEIGHT AND ITS REDUCTION . . . . .          | 179  |
| PARALYSIS—"STROKES" AND THEIR EFFECTS . . . . . | 191  |
| RHEUMATISM—ITS CAUSES AND SYMPTOMS . . . . .    | 194  |
| RUPTURE—HERNIA AND ITS RELIEF . . . . .         | 199  |
| SKIN DISEASE AND ITS TREATMENT . . . . .        | 205  |
| SORE THROAT AND ITS RELIEF . . . . .            | 210  |
| STOMACH DISEASE—ITS SYMPTOMS AND SIGNIFICANCE   | 214  |
| TOXEMIA AS A SOURCE OF DISEASE . . . . .        | 223  |
| TUMORS AND INTESTINAL GROWTHS . . . . .         | 227  |
| UNDERWEIGHT PROBLEMS . . . . .                  | 234  |
| VARICOCELE AND KINDRED DISORDERS . . . . .      | 242  |

# KEEPING FIT

## CHAPTER ONE

### What Health Is Worth to You

**H**EALTH is not merely ability to stay out of a sick-bed. Health means the harmonious functioning of all the parts forming the whole of the body. Where there is harmonious action, no organ will be working less than normal and thus throwing extra work upon some other organ or organs. With health there is ability to do, within reason, whatever one desires to do physically or mentally, without undue fatigue or untoward effect. In health one has an immunity to disease, unless external causes of disease are heaped upon one more than usual. One in normal health who lives in such a way as to maintain that health has excellent prospects of living out his or her allotted span of life. When there is abundant health there are endurance, energy and the enviable characteristic known as vivacity.

In the United States alone there are according to reliable statistics, 225,000,000 days lost every year through sickness. Much of this sickness occurs in the cases of persons who consider themselves for the most part in normal health. Much of it is in the form of colds, minor aches, pains and fevers, which, while not serious in themselves, temporarily prevent one from earning his customary wage for one day or for several days.

Thus are 225,000,000 days a year lost—and lost needlessly! This great loss is equivalent to a city of approximately 500,000 people being idle through illness throughout more than an en-

tire year. Most of these people who lose this time could be thoroughly alive, could enjoy perfect health. It is all in knowing how and in following out what one knows.

A person below normal in health cannot feel thoroughly alive; he cannot be enthusiastic; he cannot be actively ambitious. His ambitions must necessarily be in the form of hopes and wishes, without sufficient energy to make their realization possible. Or if success comes it may be lost through inability to carry on, or there may be further exhaustion of one's energy so that the products of the success or the success itself cannot be appreciated.

Unless there is normal health the instincts are deficient and the emotions are unbalanced. One is unable to meet life as it is found and to adapt himself to it, or to modify environment to suit his needs. A great many people have grown to adult years who physically, mentally and emotionally are immature; their personalities have not been completely developed; their reasoning and judgment and their outlook upon life are necessarily dwarfed, biased.

Many thousands of people go through life or a large part of life only half alive. They have never been fully aroused, largely because of physical handicaps. Not handicaps handed down to them or handicaps of accident, but the handicap resulting from their own wrong methods of living—and of thinking. Their imagination, courage and capacity are half or less than half what they should be. Those who have vivid imagination and normal courage have bodies pulsating with energy, their ambitions are high, and their capacities are equal to their ambitions. Inactivity becomes impossible to one enjoying pulsating health. He is ever reaching out for new things to learn, new things to do, new worlds to conquer. His day is active, his duties interesting and his progress inevitable. He grows; he improves; he ascends. \*

Is it possible for one whose health, energy, enthusiasm and imagination are below their highest degree to develop them to their maximum? Can the man or woman half alive become strong and healthy and capable of developing a place for himself in the scheme of things? Without a doubt a complete revolution can be wrought in the physical and mental powers of practically everyone.

It is necessary that one understand the requirements and that one go about intelligently to carry out the requirements until the desired results are realized. It is necessary to develop physical and, especially, organic strength. It is not required that one develop the muscular physique of a Hércules, or the perfected outlines of an Apollo, nor for a woman to challenge comparison with Venus de Milo.

But it *is* required that pure, abundant blood, carrying all of the necessary food elements, should be naturally flowing through every portion of the body. It is necessary that the muscular system be exercised sufficiently to utilize most of the food consumed, to burn up wastes or unneeded elements, to develop normal response and tone of the muscular fibers themselves, to generate enough lactic acid to feed and stimulate brain activity, and to directly develop the brain and the nervous system through this activity. It is necessary that all the natural factors of life and health—sunshine, fresh air, water, vital foods, sleep and relaxation—be provided in abundance.

Unless there is some inherent inherited or congenital germ-plasm or developmental handicap, physical and mental energy will be developed by such a mode of living. The vitality and nerve-force constantly generated and at command will be bound to express themselves in a body more alive, alert and responsive, and in achievements worthwhile. Success is due to the dynamic quality of energy, plus aptitude for one's

chosen work. While it is possible for a square peg in a round hole to gradually make himself and the job appear mutually suited and that some degree of success may thus be developed, it is necessary for highest success that one direct his energy in the proper channels. It is even true that one who enjoys surging energy may attain a far greater success in work to which he is not primarily adapted, than the one half alive can secure from work to which he is best adapted.

Knowing that it is possible to become wholly alive, keenly alert, energetic, enthusiastic and ambitious, why not become the possessor of these inspiring and empowering forces, and obtain the most that life has to give? The reason in most cases for failure to be so is an unawakened or an insufficiently aroused ambition, due to living habits which poison the blood-stream and thus suppress the normal mental processes.

Health—abundant vigorous vital health—is no respecter of class, social standing or power. It is as possible for those of the lowest strata of social life as for the intelligentsia, the princes of power and the social dowagers. Often it is possible of attainment to a higher degree in the lower strata than in the upper strata of society, because enervating social duties in the upper classes may undermine health resistance and so serve as definite hindrances. So long as there is life, in most cases it is possible for one to attain a normal degree of health. More power is required to run a machine with friction than for one in which all parts work harmoniously—and this is as true with the body. If there is enough vitality to go through life with the handicap of disease there is enough to enable one to develop normal health—except, of course, in occasional instances.

These pages are presented to help the reader to free the physical organism from hindrances that handicap it, to re-energize the body and to develop the highest degree of health.

By following the suggestions given in this volume the reader should be able to develop a higher degree of health than he or she has ever enjoyed. After developing this degree of health, or if the reader has the good fortune already to possess such good health, the suggestions given in this book are sufficient to enable one to retain that health—to keep fit in every sense of the word.

## CHAPTER TWO

### Eating to Keep Fit

THE subject of diet is taken up first here because it is the most normal important factor of life over which one has direct control. One may or may not exercise; one may bathe, or ignore the needs of the skin; one may think constructive or destructive thoughts or let the mind degenerate. This is true of all factors under one's control—one may accept or ignore them. But except for a few days or a few weeks at a time, one cannot go without food.

It is beyond comprehension why the subject of diet has been ignored to such a great extent by the leading schools of healing throughout the past generations and centuries. It must be self-evident to any one of rational mind that our body cells are sustained by materials supplied by food. It must be as self-evident that the chemistry of the body must be controlled to a very large extent by the foods consumed. It seems only rational to expect that vital foods, foods containing the elements built into them by nature, will construct better cells and better organs and provide a better chemistry than foods that have been deprived of many of these elements.

There are various expressions to denote the chief factor in making us what we are. Thus according to one idea we are what we are pretty much according to the condition of our internal secretion glands. According to another we are what we are according to the way we think. According to still another our own personalities and characteristics are performed through inheritance and we have little to say or do about them. But one cannot get around the fact that we are

largely what we are, physically and chemically, according to what we eat and how we eat. There is no one factor that has to do with our life, in the making or in the maintenance, that can be wholly ignored; and there is none that can be accepted as the "one and only." While all other factors should be understood and applied to the extent necessary for our best health, strict attention to our diet is the measure most essential to maintain health.

This does not mean that one should become unwarrantably food-conscious. Some enthusiasts become such faddists upon the subject of food that food is rarely taken into the system without attempt at analysis of its composition, and of its effects as well. This course is not warranted. One should understand the subject of diet so completely that it becomes second nature merely to accept only healthful foods and in proper combination and to ignore those that are detrimental. One should know when a food or a meal is consumed that it is wholesome and that it will have a good effect in one or more of the various ways in which food affects the body, and as soon as that food is taken it should be forgotten, or at least it should receive no mental attention. The body will take natural foods or wholesome foods and give them all the attention required from the physical standpoint, and they will become serviceable to the body according to their elements and the effects for which they are particularly adapted. No attention whatever is required upon the part of the mind after food has been consumed. To think of food after it enters the stomach, particularly to doubt the ability of the body to handle it properly or to doubt the wholesomeness of the food, is to invite trouble.

One should understand what constitutes a food. A food may be considered as any substance which when taken into the body will provide material for building or repair of tissue,

for heat or energy, or the subtle elements that are protective in nature—and that will have no detrimental effect. A food may supply only part of the elements the body requires and yet be a natural and wholesome food, but nothing which supplies elements unneeded by the body can be a perfect food.

The only purpose of food is to keep the body machine going. The body cannot work unless it is properly built and kept in proper repair, unless it is provided with proper fueling foods, or unless the subtle chemicals are present to perform their delicate protective duties. The needs of the body for food are definite: There is a certain amount of each and every element possible for the maintenance of the body and its functions. Fortunately, however, the body is capable of surviving for a time on less than it requires, as well as of handling more than it requires. Also it is capable of functioning for some time with a deficiency of some elements and an excess of others.

But sooner or later, unless all elements are provided in proper balance some part of the body machinery will break down. On the other hand if an excess of food—even if it contain necessary elements—is provided, the body machinery will become clogged and some part will give way. Practically without exception, humans have considered the pleasing of the palate the chief factor of importance in selecting diet. Little or no attention is paid to actual body requirements, hence the average diet is woefully unbalanced and often wholly lacking in some important elements. Most of our diseases are due to this one factor—an unbalanced diet, with a great excess of some elements and a great deficiency or total absence of some others. This produces an encumbering surplus on the one hand and starvation on the other. As consequences, the chemistry of the blood and body fluids is

unbalanced, the cells are bathed in unnatural fluids, organs are overworked, with an insufficiency of certain elements necessary for their best work, and it is only natural that detrimental results will be produced.

Only within the past few decades have we known anything about vitamins. For forty years or more I have been advocating a natural diet—a diet of foods as they were produced by Nature. I did not know anything of vitamins nor of mineral elements when I began advocating such a diet. It seemed only the simplest common sense that Nature knew what she was about when she prepared foods from the soil and from the tree and vine and plant; it seemed as common sense to me that no altering of those foods could improve upon their content of whatever it was that the body utilized from them for its own good. But science, though tardy, finally has found why foods in natural form are superior to man-processed foods.

Until a few years ago the mineral elements in food were listed merely as "ash." Proteins, fats and carbohydrates (starches and sugars) were considered the important and all-important constituents of food. No effort was made to find the content of the "ash," or to give it importance if it were found. Calcium, iron, magnesium, manganese, sodium, chlorine and such elements were passed up as of little or no importance. Today, practically all of our common foods have been thoroughly analyzed and the content in each of the elements the body requires has been determined. In addition, practically all foods have been experimentally fed to animals and fowl and the proportionate content of the various mineral salts and vitamins in each of them has been determined. These experiments and findings have proved of vast importance and the advanced members of the medical profession today are advocating just such a diet as I always have

advocated. But many physicians in the rank and file of the medical profession still ignore the importance of diet in maintaining health or in aiding to recover health.

In primitive life, man's diet was predominately vegetarian with a small proportion of foods of animal origin. Civilized man has made two great changes in his diet, neither of which has been to his physical advantage—larger quantities of meat and large quantities of grains or cereals. In primitive life the cereals and the larger animals as a source of meat were not available. Neither of these forms of food is detrimental if taken in proper quantities and if other natural foods are used in abundance. One objection to flesh foods and grains is the large quantities consumed. Another objection is to the denaturing of the grains by milling processes which deprive them of much of their important minerals and all of their vitamins. Another detriment is that meats frequently are used after weeks or months of cold storage and the loss of important minerals and vitamins present in the blood and tissues of animals at the time of slaughter.

Let us acknowledge that the forms of food under discussion provide considerable palatability. The fact that such foods are often capable of being prepared in different ways often leads to the daily consumption beyond the amounts required. This utilizes space in the digestive system and so decreases capacity for other foods that more effectively provide protective elements and substances. In my many years of experience with diets in which meat has formed small part and cereals a decidedly minor part, I have been even more completely convinced that these two forms of food are required by the human machine in only limited quantities.

One advantage of using grains in mankind's diet is that they can be stored for months or years in their natural forms and still retain all of their elements. This has permitted man

to move from vicinity to vicinity and thus spread over the face of the world, carrying foodstuffs with him. The fact that the larger animals also were widely distributed or could be transported was favorable likewise for the spread of mankind over the globe. In modern life, in most locations, a wider range of foods can be procured, so man is not so definitely limited to meat or cereals or to a combination of these, as his chief articles of diet. It was only during certain phases of man's migration to ever "greener pastures" that grains and the meat of wild or domesticated beasts necessarily completed the major portion of human diet.

Today it still is necessary to use a fair percentage of the grains in the diet, and this will be necessary until there is some revolutionary change in our agriculture, food-producing and food-distributing methods. The chief objection to cereals to-day is due to the methods of the manufacturers of grain products, whereby many of the vital elements are removed, thus making these foods lose many of their beneficial constituents. Our modern diet could be practically entirely free from most of the cereals as they are provided on the market, not only without detriment but with advantage so far as nutrition is concerned.

Although many persons today know the names of the divisions of foods as they are classified by science, these classifications may be enumerated here for ready reference.

*Proteins*—foods serving to build or repair the body—include nuts, milk, cheese, eggs, the legumes (dried beans, peas and lentils) fowl, fish and meat.

Immature meat from calf, lamb and pig, although favored by many people, should not be used except rarely. The waste products of metabolism are much greater in these than in mature meats. Beef is the best meat for regular use, though mutton is a satisfactory second choice. The organs

of animals, especially the liver, kidneys, pancreas (sweetbread) and heart all are better than the muscle meat for really valuable elements aside from the muscle protein.

It should be remembered that there are no essential food values that cannot be derived more cheaply from other sources than are provided by meat. In no other protein are waste products of metabolism found in such large proportions as in meat, fowl and fish.

*Carbohydrates* consist of starches and sugars. In the starch-foods are included all the grain products, including macaroni and spaghetti, potatoes, sweet potatoes, and bananas. Among the sugar-foods are honey, brown sugars, maple sugar, and various forms of white sugar. The sweet fruits also may be listed, examples being dates, figs, raisins, dried currants and some sorts of prunes.

The carbohydrates are required by the laboring man and the active child in considerable abundance, for they are fuel providers. These are the foods which provide heat and energy. But an adult requires very little protein, because the wear and tear upon his protein tissues is comparatively slight. The growing child, however, does require proportionately considerable quantities of protein, because construction is taking place and this building element must be provided or normal body growth will be checked and the body stunted in consequence.

Many of these are considered as "meat substitutes." It is more truthful to reverse the statement and say that meats are really substitutes—incomplete as they are—for other sources of protein. If meats in the main were excluded from the diet and these other proteins instead, supplied, the body would be better off in most instances. Yet there is no objection to using meats in very moderate amounts. The body requires only something like three ounces of protein a day. Some per-

sons might look askance at a serving of meat of no more than three ounces to the meal, and the majority perhaps use meat more than once a day.

Cereals are important sources of starch, having also from eight to fifteen per cent. of vegetable protein. But in the cereals the life portion or germ, and the protective covering or bran should be used and not discarded, for this covering is protective to the human organism as well as the grain itself. The use of whole wheat or whole grain cereals has been derided and even condemned by reputed authorities on diet until quite recent years, on the baseless assumption that such foods are "too coarse" for the human intestinal tract.

On the other hand, some persons, through information received by over-enthusiastic natural dietists, have gotten the impression that denatured cereal products are more or less poisonous, some of them looking upon the use of such products with almost the same horror that they look upon drinking alcoholic beverages. There is nothing at all poisonous in such products. Taken in very limited quantities, there will be no detrimental effect, provided the elements taken from them are supplied in other foods. But the point is that there is no advantage whatsoever and no reason for taking devitalized foods when foods (even the same food) may be provided which supplies every element needed in the building, functioning and chemistry of the body.

As for sugar, far too much of this now forms a part of the human diet. Much less objection would be made if the sugars predominating in the diet were honey and maple sugar, and less expensive sugars that remain in the natural dark forms, or the sugars contained in the sweet fruits. Yet practically all of the sugar that civilization consumes is in the form of the wholly devitalized, demineralized and devitaminized white sugar and its products. This sugar provides

nothing but sweetening, and is highly acid-forming in its ultimate effect in the body. It is one of the greatest causative factors and feeders of catarrh, colds and similar troubles. We need starch or sugar or both, but in addition to the sweet which seems to be required, and regardless of its energizing value, there are so many other important elements and so much delicious flavor provided in the sweet fruits and natural sugars that it is surprising that the white sugar should have such a hold upon thousands of people who are mainly interested in pleasing their palates.

Fats are heat and energy foods also. They are butter, cream, the various oils and nuts. We do not need a great deal of fat in our diet. Many people get along well without any, and many others could get along better if they reduced the amount they use. In the matter of milk, for instance, a great many people seem to think that it is the richness of the milk in cream that is the nourishing feature, and a great many add cream to whole milk in order to increase the fat content.

There have been numerous patients in my sanitariums who have made better progress in curing troubles, and even in gaining weight, on wholly skimmed milk than on even normally whole milk. Many people use butter in excessive amounts, without realizing that they are likely to be interfering with digestion and assimilation. Fat meats and lard used in cooking should never be used by anyone under any circumstances, though there is no objection to using moderate amounts of other fats and also oils for similar purposes.

Emulsified fat of milk (cream) and egg yolks, also butter and cream cheeses are very rich in the highly important fat-soluble vitamin, which is wholly lacking in lard, oleomargarine and cotton seed oil.

What are of great importance in the diet are foods rich in the *mineral elements* and in the *vitamins*. These foods are chiefly the leafy and tuberous vegetables and fruits of all kinds, and milk. Until comparatively recent years the conventional diet consisted of meat, potatoes, bread, butter, cake, pie and coffee or tea with sugar. With a great many people today this remains the diet used regularly. If one has a small garden or orchard or a few fruit trees they may use protective vegetables and fruits during the season of their growth. But for the greater part of the year these will be excluded from the diet in great measure. When there is a surplus of these foods during the season they may be preserved for winter use. Often, and most unwisely, the vegetables will be made into some sort of vinegared product, and the fruit will be made into jellies, jams and preserves.

These conventional forms of food are extremely acid-forming in the body, and this is one reason for the prevalence of disease and for a constantly-increasing number of cases of organic and destructive diseases.

There is no objection to having meat and other proteins and the starches as a part of the regular diet, but we require a comparatively small amount of these. They should be more than balanced by the alkalinizing, mineralizing protective fruits, vegetables and milk. These protective foods are absolutely necessary if we wish to escape toxemia and acidosis, the underlying disease which gives rise to the many symptoms and groups of symptoms erroneously called disease.

The leafy vegetables have a great many attributes to recommend them. Present scientific knowledge rates them as the most essential foods known, with the exception of milk. This does not mean that one could live on a diet wholly of leafy vegetables. Man could not handle such bulk satisfactorily. But they supplement other foods and prevent deficiencies

of conventional foods, hence their regular daily use can not be too highly recommended.

The essential qualities of leafy foods are: first, the vitamins, all of which seem to be present in leaves; second, the minerals, in which the leaves are very rich; and third, the presence of cellulose, which gives bulk to the food in the same way that wheat bran does. Leaves are also rich in protein, and this protein is quite readily available. However, one could not possibly consume enough of the leafy vegetables to provide the body's requirement of protein. The leafy foods outrank in their proportion of mineral ingredients any of the grain, fruit, nut, and meat foods. They are equaled only by milk, cheese and eggs.

In the matter of *vitamins* it is not necessary that one know which vitamins are present in certain foods. If one includes in the diet natural foods in abundance, there will be enough of the vitamins to supply the body's need for these subtle elements. Without a doubt many of our vague disorders as well as some of our definite disease manifestations are due to a constant deficiency in the diet of one or more of the vitamins. All of the vitamins have much to do with growth. Children who do not receive enough of these protective elements may be stunted in one manner or another, either structurally or vitally, and their vitality is certain to suffer. They become more susceptible to disease and infection and their skeleton fails to develop the strength that is normal. Naturally the nervous system also suffers and becomes more or less unstable, making one susceptible in later life or even in early adult life to various nervous and psychic disturbances.

One may be sure that there will be an ample supply of the vitamins if such foods as the following are used regularly: Green vegetables, root vegetables, tomatoes, citrus and other fruits, milk and its products, eggs, particularly the yolks,

whole grain cereals and nuts. Included in the fruits may be avocados, bananas, dates, figs and raisins. Various berries may be included, also melons. The seasons for these are short, but fortunately they are provided by Nature at a certain time of the year when the body requires very liberal amounts of watery foods and needs comparatively less of the heavier foods.

*Nuts* form a type of food much neglected—and for unexplainable reasons. Nuts constitute one of our most natural and wholesome foods, being comparatively rich in proteins, fats, and having vitamins and minerals and some starch. They provide protein to be preferred to meats, in addition to supplying considerable of the protective elements. One great factor in their favor is their freedom from toxic waste products, which are present in all flesh foods. The majority of people who use nuts in the conventional diet use them after meals, as tidbits or between meals as "snacks." They are rich and concentrated foods and should be used as the heavier portion of the meal, in place of other protein or starches although they do not substitute for starches, yet they provide some starch and liberal quantities of carbohydrate fuel elements.

The digestibility of foods is largely an individual matter. Many foods digest without any difficulty at all with many people, and yet with others cause a considerable amount of trouble. The digestive power varies much in different individuals. One reason for prolonged digestion of certain foods in many cases is that these foods are used in too great a variety, and another is that they are insufficiently masticated. Almost any food that is a good food for anyone can be digested by any individual if taken alone or in the simplest possible combination with other foods, and if thoroughly masticated. The present-day diet includes an excess of rich foods—foods that often cause other foods that normally digest

very easily to be delayed in their digestion. The average dinner is an ill-assorted combination of foods, and the wonder is not that digestive troubles and disease in general develop, but that the stomach can ever be so repressed in its normal instinctive capacity for emptying itself when abused, as to retain such a meal and struggle with it until ultimately the food is digested sufficiently to be passed on.

The following simple rules may serve as a guide for selecting and proportioning foods in the planning of menus. It seems inadvisable to list hard-and-fast menus, for the reason that there are so many possible menus of proper combinations that unless one understands the underlying principles one is at a loss as to how to duplicate or substitute for these menus, and they may become monotonous if used over and over again.

Breakfasts as a rule should begin with fruit. The second course may be either a starch or a protein: either a cereal preparation, or eggs in some form, or milk. If a person is doing only sedentary work, fruit and milk alone or fruit alone may be sufficient. The growing child, who needs more in proportion than the adult, should have a cereal and milk and may have a sweet fruit with the cereal. A laboring man may require and may assimilate both the starch and the protein, but as a rule both are not necessary at the same meal. It is not advisable to use coffee or tea. In place of either of these something of real value and without detriment may be taken such as milk, fruit juice, cereal coffee, cocoa or one of the malted milk products.

As for the noon-day meal, much will depend upon whether this is to be the largest meal of the day (dinner) or the lighter meal (lunch). For the majority of people an excellent lunch, which of course may vary from day to day, would be a liberal serving of salad or green vegetables—

either a single vegetable or a combination salad; one or more cooked green vegetables; sweet fruit and sour milk or buttermilk. If one's work involves labor, there may be a cereal product, such as bread or toast or a starchy vegetable, such as potato or sweet potato. When no protein is taken at breakfast, cottage or other cheese may be used, or eggs or nuts. A fruit dessert may be taken at this meal, either a raw juicy fruit or stewed or baked fruit. Any of the above meals may be taken as a luncheon, which may be taken at noon or at night for supper.

The dinner, to be taken at night or at noon, may be similar to the lunch with the exception that instead of a sweet fruit may be taken a protein, such as nuts, cheese, meat or fish, or such a starchy food as potatoes, macaroni or spaghetti.

At any meal berries or melons may be substituted for fruits, and there are so many of the green vegetables and the foods of each class, for that matter, that monotony easily can be avoided by following the plan mapped out above.

Definite rules should be observed in the matter of diet and eating habits. We may note a few of these rules:

Never eat without an appetite created by definite need for food. This does not mean a stimulated appetite or a mere habit hunger.

Never eat when fatigued or worried or emotionally upset or when in a hurry. Normal digestion of food will not follow under such circumstances.

Omit a meal or take nothing but fruit or fruit juice at intervals. Your next meal will taste better and do you more good. In animal experimentation it has been found that if one day out of four the young animals are given nothing but water, they will grow faster and into larger, stronger animals than where they are given full rations regularly every day.

Do not form the habit of drinking heedlessly at meal

times. There is no objection to taking a limited amount of plain water if there is a definite thirst, if the mouth is empty of all solid food at the time. But it is a great mistake to wash food down into the stomach before it is properly masticated. It is better to drink a glass or two of water from thirty minutes to shortly before a meal, and another glass a little time after a meal, than to form a habit of drinking while food is being masticated.

Do not eat late at night, or at least not less than three hours before retiring. If there is a definite hunger through having missed a meal, or if there is inability to sleep under certain conditions when the stomach is empty, there may be no objection to taking a glass of milk or a bowl of milk toast, or a bowl of simple hot vegetable soup, or something of this type even just before going to bed—provided there is no definite heart trouble and no high blood pressure.

As to the amount of food one should eat, this will depend upon the patient's age, weight, occupation or amount of daily activity, and the gland activity by which oxidation is largely controlled. If the thyroid gland, for instance, is quite active it will burn up food much faster than if it is normal or sluggish. A course of treatment with a limited diet for a time may be very necessary for overcoming a condition of over-active thyroid. Yet the regular diet usually in such cases may need to be somewhat more liberal than where the thyroid is less active.

One should strive to reach as nearly a normal weight as possible and then keep the diet so balanced that this weight will be maintained. Normal weight does not mean the weights shown on numerous weighing-machines. Such weight lists give the averages. One should use his mirror to determine his normal weight. One should have sufficient judgment of symmetry to be able to determine by the mirror

what one's normal weight should be. At least one can tell whether or not above or below normal weight for one's height and then strive to reach the normal. It may mean modifying the diet, exercise, the sleeping habits and practically every factor concerned with health, but diet will be the most important factor in weight control. Without a doubt one feels better, is able to perform the daily duties more effectively and with less fatigue, the brain is clearer and capable of more satisfactory constructive work, relaxation will be more complete and recuperative, and in every way one should be able to put more into life and get more out of life, if the weight can be maintained at normal or approximately at normal. A well balanced diet should accomplish this, if it provides every element the body needs for building and for its manifold functions, and if all waste products and unused substances are eliminated from the body as formed or before they have time to undergo abnormal fermentation and putrefaction.

Remember that it was stated earlier in this chapter that food should serve chiefly the purpose of maintaining the body in structure and in function. Learn what *your* body requires to get it and keep it in condition, and adhere to such a diet and general health program as to maintain the body in its maximum degree of health, energy and vitality.

## CHAPTER THREE

### Exercising to Keep Fit

**W**ITHOUT doubt one of the most important laws of the universe concerns the use of the muscles. "Activity is life; stagnation is death." Activity is the law of life—and of health. We have developed our muscles one by one or pair by pair through the evolutionary processes that have brought us up from the slime of pre-historic ages. The original and earliest form of life is considered to have been a one-celled organism similar to that which modern Science calls the amoeba. Gradually and by slow degrees, because of necessity, organs and structures, including muscles, were formed.

Whether or not evolutionary processes still are taking place in the human body is debatable. But certain it is that any structure present in the body today has definite functions and should have an opportunity to perform these functions normally. The normal function of muscle tissue is contraction and expansion—in other words, work.

The work of a muscle may be in the form of labor or it may be in the form of indoor or outdoor exercises or sports, but to the muscle it is work, and the muscle must have work or it deteriorates.

Our nervous system has been perfected through the use of the muscular system. A man who loses an arm or a leg will have a deterioration of a certain portion of the brain, readily shown upon autopsy after death. The finer the movements, the keener the response of the nervous system. Thus the pianist, the violinist, the artist with his delicate

touch, where their specialized activities are concerned, may have a more responsive nervous system than has the prize-fighter.

In any case, however, exercise serves the purpose of contracting and expanding muscular tissues. And there are other functions of exercise than developing keenness of response of the nervous system or of maintaining the nervous system in a responsive stable condition.

Among the functions of exercise are those concerned with digestion and metabolism. Upon the use of the muscles there is of course a contraction of the fibers forming the muscles. Nervous impulses travel down the delicate nerve fibrils to the muscular fibers and there a process takes place that may be likened to the flash of powder in the cartridge when the hammer strikes the cap. What "explodes" is the food-fuel in the muscle, or muscle-sugar. This comes from food consumed, which reaches the individual fibers through the blood-stream and through the lymph, by absorption.

Now, when the muscle fibers are all "primed" for explosions leading to contraction and there is no flash from the nerve fibrils directing the explosion, the muscle-sugar remains and new supplies in the lymph are passed on by. If enough of the muscular tissue is inactive, this new food circulates and re-circulates without a place through which it can be expended. This condition backs up to the digestive system so that the digested foods can not be absorbed. In time the digestive system itself becomes unable to digest foods properly—because food has not been needed by the extensive muscular system where most of the food is utilized.

When there is proper exercise of the muscular tissues, then—throughout the entire system—processes are taking place which lead to improvement in the digestion and assimilation of food. There is a definite call for more food; and since the

organs work together, like individual units in a co-operative community, the digestive system better prepares the food for use in the muscles, and effectiveness of the various transport systems insures that it reaches these muscles.

During the same time in which this process is taking place, there is an improvement in the muscular tone of the digestive tract, promoting assimilation of the products of digestion. These products get into the blood-stream, and in the circuit through the body some of these elements will reach the fibers forming the muscles of the digestive tract. Hence, they will be in better tone, stronger, and more capable of performing their daily duties.

In this way the internal and external muscular systems are better fed and strengthened and the nerve fibers responsible for their activity will be more keenly alert and ready to respond to demands placed upon them.

The circulation is markedly influenced by muscular activity. An individual may lie in bed for months and the circulation will continue, but it may be likened to a sluggish stream with stagnation inevitable. At no time or place is there a swift current or a dashing rapids or waterfall. Where one exercises there is a need in the muscles for more food, the blood must bring it there, the nerves send the impulses impelling the blood to deliver the needed elements. The blood-stream flows along with swiftness from the inner structures, through the large blood-vessels as it goes to the body's periphery and back again. This circuit must be made continuously. There is no stagnation in this stream. Toxins are much less likely to develop in such an active blood-stream, and there should be no decay or disintegration of the blood-vessel walls, or of the tissues adjacent to them.

Exercise influences the heart favorably through its effects upon the muscle tissues and upon the blood. The heart is

a hollow organ of marvelous muscular construction. From approximately four and a half months after the very conception of individual life until the last breath is taken, this organ must contract rhythmically and force from its chambers a definite amount of blood. During inactivity the heart pumps along leisurely. As a result of prolonged inactivity, its fibers become weak and incapable of withstanding any appreciable strain or tension.

Exercise of the skeletal muscles is necessary for the heart to maintain normal tone of its tissues. To supply blood to the muscles that are exercised, the heart necessarily must work with greater force or greater speed, or both. As it does so, its own muscular fibers are given strengthening exercise. In this way the heart becomes more and more powerful until it can resist many times the normal amount of exertion without injury, provided the exertion is not excessive and that the heart receives normal rest afterwards.

The lungs respond favorably to properly-adapted exercise. Every globule of blood must reach the lungs several times in the course of a few minutes. As the blood passes through the delicate lung tissue, it passes off its burden of carbon dioxide and takes up a new supply of oxygen to supply the muscles with energy. Oxygen is necessary also to oxidize or burn up waste products, to prevent injurious results of accumulation. Exercise makes it necessary for the lung tissues to expand to receive more blood to throw out more carbon dioxide, and to take up more oxygen for the laboring muscles. Not only the lung tissue expands and strengthens, but the chest enlarges to allow more room for the lungs. Furthermore, expansion of the chest elevates the ribs and this elevation has a mild stimulating effect upon the spine through the rib attachments at the *vertebræ*, and this has a tonic, naturally stimulating effect upon the nervous system.

Every vital organ within the body is influenced by the activity of the six hundred and more muscles that form the major part of our anatomy. We cannot have vital strength or organic vigor unless we use those muscles as they were meant to be used.

Exercise works hand-in-hand with *relaxation*. One can not build muscular tissues *by* exercise—only *through* exercise first and relaxation afterward. What exercise does is to burn up muscle sugar and break down defective muscular fibers and prepare the way for the entrance of more building material so as to strengthen the muscle fibers against additional work. This repair, reconstruction and new construction takes place only during relaxation.

Hence to build the muscular system into a serviceable muscular organization and to reap the benefits throughout the body of exercise, it is necessary that there be adequate rest, relaxation and sleep. One becomes enabled to profit from sleep through the influence of exercise. Relaxation becomes more complete, the sleep is sounder, and repair takes place not only in the muscular tissues but in every other organ as results of recuperative sleep.

Why do we become fatigued or tired after exercise? First, because the broken-down cell material accumulates in the blood-stream, acting as a block to the flow of the blood and to the flow of the nervous energy. Second, because the motor areas in the brain become exhausted. That is, they have used up their reserve. Elimination will take care of the former comparatively quickly, but the latter requires relaxation and sleep for a complete correction.

It is at once evident that rest and sleep are necessary in connection with exercise; in fact, they are indispensable. Exercise may be actually injurious without rest, and rest is useless and less profitable without exercise. Both are neces-

sary, both dependent upon each other for the greatest benefit.

Elimination of waste products is absolutely essential for the maintenance of health. In the sluggish individual the skin becomes inactive, breathing is shallow and the intestinal elimination is much below normal, while the kidneys may become irritated by the acids and other waste products that must pass through them in excessive and abnormal amounts or in concentrated form. By proper exercise the skin pores are opened, honest sweat makes its appearance upon the surface, bringing with it waste materials.

It already has been explained how skeletal muscle exercises strengthen the internal muscular system. The improved tone in the intestinal muscles helps to re-establish and maintain the normal peristaltic wave, and the residue from food is carried out of the body. It has been explained also that the function of the lungs is made more effective, more carbon dioxide being carried out when the lungs must breathe more deeply and more rapidly through exercise. The increased elimination through these channels takes some of the burden from the kidneys—though temporarily the kidneys may have a small increase in solid elimination through the influence of exercise in breaking down cells and certain waste products. If one drinks enough water or fruit juice preceding, during and following exercises, or regularly during the day, the solid content of the urine will be diluted, and this measure tends to prevent injury to the kidneys.

Recently some physiologists have determined that the brain depends on lactic acid almost solely as its food. Lactic acid is created by muscular exercise. When exercise is taken in sufficient amounts to maintain the general body in a condition of greatest health, then the brain attains better nutrition, and functions dependent on the mind—such as thinking, reasoning, imagination may be stimulated.

From the above we see that proper exercise in normal amounts has to do with practically every factor concerned with the process of living. It makes more food necessary and permits us to handle that food; it demands that we drink water and that we secure fresh air for the supply of oxygen; it opens up the skin pores so that bathing is enjoyable and profitable and we become normally tired and so benefit by rest and sleep.

We return to the point at which we began—that exercise has a far reaching effect upon the body; that it is indispensable to perfect health; but that, along with this, must be all essentials that go to make up right living.

## CHAPTER FOUR

### Breathing to Keep Fit

**A** VERY great deal has been written about the value of breathing and breathing exercises, and quite unnecessary stress has been laid by misguided enthusiasm upon certain types of breathing for specific effects upon the body. Without doubt, however, deep breathing to expand the lungs, taken at regular intervals or at least frequently, is of great value. What many persons do not seem to know is that natural exercise taken strenuously enough to stimulate the heart and circulation, will necessitate deep breathing and therefore will have a favorable influence upon the breathing mechanism. I am convinced that it is far better to obtain this lung exercise involuntarily or subconsciously, through exercise necessitating deep breathing, than through exercises involving practically solely the breathing apparatus.

Children, if others do not check their play, usually obtain the right kind of exercise. Their running and jumping games, their races, and so on, are along the lines of natural exercise and tend to improve their vitality and to strengthen their vital organs. One trouble with many people is that as soon as they reach early adulthood their "dignity" prevents their exercising similarly. In consequence, there begins a slow degeneration, not only of the lungs and breathing mechanism, but of all parts of the body, particularly the vital organs. Running and wrestling are types of very vigorous athletic exercises that compel deep breathing and lung development, without any special breathing exercises. This is particularly true, of course, if such exercises are taken

with regularity throughout the year rather than spasmodically and too infrequently. In such cases the degeneration may have so progressed that strenuous exercise is a strain rather than being of benefit.

True, many deep breathing enthusiasts have been able to demonstrate marked chest expansion and lung capacity. The average lung capacity for men is approximately two hundred and forty cubic inches, and for women approximately one hundred and eighty cubic inches. The chest expansion averages for men around two and a half to three inches, and for women under two inches. One instructor in deep breathing had a chest expansion of approximately sixteen inches and a lung capacity of around five hundred cubic inches. The danger in an excessive lung development and chest expansion in early adult life is the lung degeneration later in life when the physical activity is curtailed to a great extent and much of the lung space is inactive.

A man should be able to develop a chest expansion of from four to five inches, with a lung capacity of three hundred to three hundred and fifty cubic inches. A woman may have an expansion practically the same, with a lung capacity of approximately two hundred and fifty cubic inches. Her lungs are naturally smaller and shorter, so that while she may have the same chest expansion she will not have as large lungs, consequently will have a smaller lung capacity. But to attempt to secure a phenomenal expansion and lung capacity is wholly unnecessary and, in fact, inadvisable. The rest of the vital organs can not well accommodate themselves in their capacities to the tremendous lung capacity, and nothing is to be gained by this one-sided development.

If one's occupation, general surroundings and general physical condition are such as to preclude sufficiently active

pastimes to develop the lungs to their best, it is not only advisable but necessary to frequently engage in voluntary deep-breathing exercises if the highest degree of health in general is to be developed. Not only are the lungs developed and exercised by sufficiently strenuous exercise; every part of the body is benefited.

In the preceding chapter some of the influences of deep breathing were mentioned. In addition to the effect upon the blood through aeration and upon the spine and nervous systems through the effect of breathing upon the ribs, when the lungs are properly developed there is ample room to receive blood pumped from the heart, making improbable any backing up in the heart because of interference at this point. This favors strengthening and toning of the heart itself and improvement in the general circulation—aside from the effects of the exercise itself upon the circulation.

In addition, each deep inhalation of air causes a greater excursion of the diaphragm downward over the abdominal organs. This very flexible dome of ligament and muscular tissue lies immediately between the lungs and the abdominal contents. The shallow breathing of the average individual causes only very limited movement of the diaphragm; but the deep breathing necessitated by suitably strenuous exercise or by proper deep breathing exercises will drive the diaphragm downward with sufficient force and for such a distance as to have a very pronounced massage-like effect upon the great organs lying within the abdomen. When the breath is exhaled the diaphragm ascends, and if the breathing is deeper than usual the ascension of the diaphragm, as well as its descent, will be greater. Thus a very pronounced and vibratory massage will be given to the liver, stomach and colon particularly.

A great deal has been written about the type of breathing

of the greatest benefit. If one will observe a child, whether at rest or after strenuous play, and whether standing or reclining, it will be found that the greatest expansion of the lungs is in the lower portion, involving expansion and retraction of the abdomen as well. But it should not be necessary for one to pay conscious attention to the type of breathing. Normally a breath of air expands the lower portion of the lung, but if deep enough the breath will also expand the middle and upper chest as well. Upon exhaling, the reverse order of chest involvement will be observed—the upper chest "collapses" first and finally the lower.

A complicated system of exercise is not at all necessary to secure proper breathing, or sufficient deep breathing. However, instead of merely standing and inhaling deeply, in the course of various groups of exercises, there should be enough stationary running or deep knee bending, chinning or pushing up from the floor, or enough abdominal or spinal exercises to necessitate deep breathing. It will be practically certain that the breathing will be properly done; but if not sure, it might be well at first to stand before a mirror and observe the chest and abdominal expansion in order to correct any breathing faults that may have developed. Of course if one has a definite lung disease or a heart disease or high blood pressure or certain serious abdominal conditions, as hernia, or has had a recent operation, then such strenuous exercises as will necessitate deep breathing may be impossible, and only moderate breathing exercises may be necessary.

Care should be taken to have an abundance of fresh air at all times, but this is particularly important when one is taking deep breathing exercises or is forced to breathe deeply. If one's exercise is performed in one's room, it should be before an open window. There is nothing better to brush the cobwebs from one's brain early in the morning than to

stand as nearly nude as possible before an open window and go through sufficiently strenuous setting-up exercises to call for deep breathing.

It is very important also that one breathe through the nostrils and not through the mouth. This is important at all times, but particularly so when the air is cold. The mucous membrane and the more or less intricate passages through which the air must go through the nose, tend to warm the air before it enters the lungs. If there is any interference with the upper air-passages, making it necessary to breathe through the mouth upon exertion, steps should be taken for the removal of this obstruction, either by natural means or, if necessary, by surgery.

There is no difference whatever in the type of breathing best for women from that which is best for men. In the past, through the use of corsets, women's breathing was naturally considerably different, and chiefly confined to the upper chest. But with the discarding of the corset and the obliteration of the waist-line, women develop the same type lungs as men, with the above-mentioned exceptions, and need to have them developed in identically the same way, even if not by such strenuous activity.

## CHAPTER FIVE

### Keeping Fit by Bathing

THE outer surface of the body is its largest eliminative organ, namely, the skin. By many people the skin seems to be considered simply a covering drawn over the more important organs and structures beneath.

The skin is extremely, intricately, and intimately connected with the functions of the physical organism. Its millions of pores are minute windows for the ventilation of the body. If the pores of the skin were entirely sealed death would take place in a short time—in six hours at most. One can touch the body with a fine needle point at hardly any place without coming in contact with a nerve-ending and a minute blood-vessel. This shows the intimate connection between the skin and the general nervous system and between the skin and the general circulation.

A structure so closely connected with the body must have important functions. The skin has several. It affords protection for the more delicate underlying tissues. As already stated, the skin provides for ventilation. It works in close connection with the kidneys. If the body-surface is heated through exercise or by external environment, the skin pores open and let out moisture, while the kidneys will be passing off less moisture.

When the skin tightens up and closes the pores as during exposure to cold, the kidney excretion of moisture increases. When, on the other hand, the pores open and perspiration appears upon the surface of the skin it undergoes evaporation. This cools the body; hence the skin is one of the important

features of the heat-regulating mechanism of the body. Through contact of the skin with air, sunshine and different temperatures of water, the circulation, the heart and the nervous system are all stimulated. One of the best exercises for the heart is the water bath or the air bath at sufficiently low temperatures to insure vigorous reaction and so to re-establish warmth; and one of the best means of securing sedation to the nervous system is by a bath slightly below or slightly above body temperature.

So we see that the skin has such an influence upon the body that it requires special care. In primitive life an abundance of fresh air and sunshine naturally could have contact with the body. But civilized man for so many centuries has covered his skin with clothes and housed himself under roofs until the skin has become delicate, bleached, and by no means as efficient an organ as it was designed to be. But in practically every case it can be restored to much of its original serviceability.

With many people infrequent bathing is the only effort made on behalf of healthy skin. With others the bath is taken more frequently, but without any thought as to other possible effects of bathing other than mere cleansing. In almost all cases baths are overhot and overlong. No one needs a hot bath except for therapeutic purposes—that is, to allay some symptom or aid in overcoming some abnormal condition. The warm soap bath is as cleansing as hot baths and is not so exhausting to the nervous system, and has less tendency to lower the hemoglobin and cell count of the blood. But even the warm bath should not be taken for a longer time than is sufficient to cleanse the body. A ten minute bath is long enough, for the grimiest individual.

Many persons are not acquainted with the tonic bath. A tonic bath is a bath at any temperature below that of the

body, and is called such because it arouses the reactive powers of the nervous system and circulation and has a pleasing and permanent tonic effect. Some persons are so anemic, with skin so inactive and with nervous systems and circulation so weak that a bath of seventy-five degrees Fahrenheit would seem cold and would arouse reactive powers quite readily. For these people such a temperature, or even a somewhat higher temperature, still below that of the body, may be used for a number of days to get the body accustomed to the reaction, after which it would be better to lower the temperature of the water slowly from day to day in order to more vigorously arouse reactive powers and to reawaken dormant vitality and functional capacities.

The cold bath has been advocated in recent years to such an extent that often it is overdone. Where one can take the full cold bath and react promptly and completely and suffer no immediate or later weakening effect, this bath will prove beneficial. But a great many people have weakened themselves by the cold bath. They have taken it too frequently or too cold for their reactive powers and subnormal vitality, in consequence of which they have further exhausted their vitality and become more enervated. There are many people, particularly of the highly nervous type, who never should use a definitely cold bath. For these and for many others the bath should be tempered.

A very excellent means in which to accustom oneself to the tonic bath and to become able to react favorably to lower and lower temperatures is to precede the tonic bath by a fairly hot bath or to stand with the feet in three or four inches of fairly hot water. When the circulation has been stimulated by the preparatory heat the nerves also are more prepared for the shock of the tonic bath and the reaction will be more prompt and complete.

Another satisfactory means to prepare for the tonic bath is by the dry-friction bath. There are different ways in which this may be given. One may use the hands or a coarse towel, a flesh brush or bath mittens. One friend of the writer used corncobs for years, and at the age of seventy-two had skin as soft as a baby's. The friction bath may be considered as to the cold bath what appetite is to eating: it prepares the body for the bath, as appetite prepares the body for food. One should enjoy one's meals: and one should enjoy a cold bath also. If it is taken with a shudder and a chill there likely will be a lasting undesired effect. The friction bath puts the skin in such a condition that the cold water will "feel good." The friction bath alone, without a water bath to follow, will have a very beneficial effect also, through its influence upon the skin surface, the nerve-endings and the capillaries in the skin, and, through these, every internal organ and structure.

Perhaps the best means of preparing for the tonic bath is by exercise. The benefits of exercise have been stressed, and the reader should be acquainted with the effect of exercise upon the skin, warming it and filling it with blood as the circulation is heightened. The effect of exercise toward preparing the skin for the cold bath is more lasting than the preceding methods of preparing the skin. In most cases the reaction to the cold or tonic bath is more prompt when the body is warmed by exercise, for within a shorter time the circulation becomes re-established throughout the body. Indeed, after exercising circulation should attain a notably higher level than before the exercise and bath, and remain at a higher level for a longer period of time than will result from the other preparatory procedures.

Not infrequently one feels so invigorated and generally warmed as a result of reaction from a cold bath that a sec-

ond bath is taken shortly afterward. Many times this will not result unfavorably, but sometimes it seems to produce a numbing of the reactive powers and one will remain chilled for an hour or more and may require artificial heat. One should avoid following out the idea that if a little is beneficial a great deal is more so. A cold bath should not be taken too frequently, nor should it be continued too long. It is not the cold that does one good; it is the *reaction*. If one does not secure the reaction any amount of cold bathing will do no good.

Another point in regard to the cold bath: the warmer the body, the colder the bath that can be taken with prompt reaction. But one should avoid a cold plunge or other cold bath while the heart is still racing or beating rapidly as a result of exercise. This produces a tremendous shock and, unless the heart is normal, may result seriously. But remember, regardless of the heat of the body, if the heart is quiet or only slightly above normal in action the cold bath will not be detrimental.

Each individual should know or learn his own reactive powers, and in taking tonic baths keep well within these powers. These powers may be increased steadily, in fact have been increased tremendously in a great many cases; but they cannot be increased without tonic baths, nor can they be increased by tonic baths beyond one's power to recuperate.

Of very great value for many people is the sitz-bath. It is a tonic of great value through its effect upon important sympathetic nerve centers. This bath consists in immersing only the hips or the central part of the body and the feet in water. One may use an ordinary wash tub or the ordinary bath tub. In either case, have the water deep enough to cover the hips while sitting in the tub with the knees

drawn up or flexed. In warm weather the feet may be outside if the wash tub is used, but in cold weather the feet should be in warm water during both the hot and the cold sitz. After the cold sitz bath the feet should be momentarily dipped in the cold water.

If a person's reactive powers are good, the sitz-bath may be taken cold, for from one-half minute to two minutes—or even longer. When the temperature of the water is fifty degrees or above, the bath may continue for five minutes or more with nothing but benefit. A very excellent way to take the sitz-bath is to take the hot sitz bath for three minutes or so and follow it with the cold sitz of one-half to one minute's duration—the hot and cold to be repeated if desired. In the ordinary home it is impossible to secure the hot and cold sitz-bath, unless a wash tub is used alongside the bath tub or unless two wash tubs are used. This is a satisfactory way to take the bath. A very good procedure instead of this is to take the hot sitz-bath, and (when the bath tub is used) attach the portable hand spray to the faucet and spray the parts that were immersed with cold water, continuing this spray over all the parts for a minute or more.

The neutral tub bath is a bath of special value in many cases. The water is neither hot nor cold, but at a temperature of ninety-five to ninety-eight degrees Fahrenheit. It is neither stimulating nor depressing, yet has a sedative or quieting effect upon the nervous system through its effect upon the nerve-endings in the skin. It is very helpful in overcoming nervousness or general excitement or insomnia. It may be used also in cases of extensive severe burns.

In the use of the cleansing bath, it is important to consider the soap used. Many soaps on the market are so alkaline that they are injurious to the skin. A pure vegetable soap such as castile or olive oil soap, is excellent. An expensive

soap is not necessary, but it should be better than the cheapest. It is particularly valuable to have a super-fatted soap when the skin is inclined to be dry. These soaps are hard to rinse off the skin. When the skin is inclined to be too dry they should not be rinsed off completely; what remains is the oil which will tend to soften the skin.

To complete this chapter, internal cleanliness must be considered. One should secure adequate amounts of drinking water. The cells require a fluid medium as their environment and they require an alkaline medium for their normal function. The more water one drinks within reason, the more certain are the cells to be surrounded with sufficiently fluid substances that they can pass off their waste products and absorb additional nourishment. Drinking water is taking one kind of an internal bath. One should drink at least six or eight glasses a day unless on very large amounts of fruit or the watery vegetables or milk.

By the internal bath, however, the enema usually is meant. The low enema, the high enema, or the colonic irrigation may be referred to. The best position for taking the enema is the knee-chest position—first kneeling, then bending the body forward until the chest or folded arms reach the floor. In this position, with the hips elevated, the water which enters the rectum is allowed to enter without pressure and to reach some of the higher parts of the colon. The fountain syringe reservoir or bag should be not more than two feet above the hips and the water injected slowly. Water at about one hundred degrees temperature should be used, and from one to two quarts. The least amount should be used that can be used for complete results.

Often it is necessary to take a two-section enema—injecting and expelling one enema and following it immediately with another. The enema should be used no oftener than neces-

sary, but as often as is needed. Suitable diet, proper exercise, abundant water drinking and other factors usually will make the frequent enema unnecessary.

It may be mentioned that other positions may be taken for the enema, if for any reason the knee-chest position can not be assumed. One may lie on the back with the hips elevated on a pillow, or one may lie on the left side preferably, with the hips elevated.

If it is found necessary to use the enema fairly frequently the amount of water should be reduced from one to four ounces and the temperature reduced two or three degrees every day or thereabouts, until no more than four ounces and natural tap temperature water is used. By this time the rectum and colon usually will be satisfactorily toned-up for normal elimination.

## CHAPTER SIX

### Keeping Fit by Rest and Sleep

THE normal day may be considered divided into three equal parts—of eight hours for work, eight hours for recreation, and eight hours for sleep. Accordingly a person should spend at least one-third of life in sleep. To many people this seems a waste of time, and a great many do their utmost to change Nature's demands and obtain as little sleep as possible. Some people seem to require a smaller amount of sleep than others, while some seem to require more than the average. But if a person's individual requirements are eight hours of sleep and less than this amount is obtained there will be a reckoning, soon or late.

Work and exercise, or even merely consciousness, produce a fatigue of the nervous system. Just what causes sleepfulness and the need for sleep is not positively known, so far as changes in the nervous system are concerned. One theory is that through fatigue, nerve-fibers become contracted and draw away from each other so that there is a break in the impulses which travel through them. In the course of sleep, these nerve-fibers again stretch out until their contact is completed, and when this has been perfect over the entire nervous system one awakens from sleep and needs no more sleep until a similar condition of broken impulses is created again.

Certain it is that one can not keep vigorous and youthful with an insufficient amount of sleep. Sleep imparts vitality and resiliency to the mind and body as nothing else can. It is Nature's "sweet restorer," knitting up "the ravelled sleeve of care." The loss of one night's sleep is far more detrimental

to the body than the omission of several meals. In fact, in most cases the latter results may result beneficially. It has been repeatedly called to our attention that Edison habitually slept only four hours or so at night. But it is well known that he had a cot in his laboratory where he would nap frequently during the day. However, he probably did get less sleep than many people require.

One of my readers years ago endeavored to see how long he could go without sleep. Instead of sleeping his usual eight hours the first night of the experiment, he slept seven; the next night he slept six hours; and then slept one hour less each night until he was not sleeping at all. At the end of about four days without sleep he found that he *could not* sleep, and for six months he was slowly coming back from an extreme nervous prostration.

It does not pay to see how little sleep one can get. One need not fear sleeping too much. Sometimes an individual may get more sleep than is good for him, but this is rare. There is a definite need for sleep when there is the ability to sleep. The object should be to secure enough sleep that one awakens refreshed, eager for the day's activities, and fully aroused on a moment's notice.

Nervous, high-strung individuals require somewhat more sleep than those who lead a placid, uneventful life—the slow-going, phlegmatic type. Children need more sleep than adults, and young adults more than those in middle life. In old age we may find the condition of either more sleep or less sleep being required. Since all physiological activities slow down in old age, it is my opinion that there should be not only less sleep required but an inability to sleep long hours when one has reached old age. There is less wear and tear, hence less need for repair. When old people need much sleep it is because they continue to eat more than is required

and are doped with the toxins of mal-assimilated foods and of toxemia generated in the intestinal tract and in every organ and cell of the body.

It is better to wear out than to rust out. We all can do more work than we actually do if we make up our minds to do so. There is such a thing as developing a "second wind" in a foot-race, and likewise in the race of life. One who does little mental or physical work seems to require as much sleep as the man who does a great deal. If a farmer comes to a great city, the noises and the excitement wear him out for the first few days. After that he no longer reacts as he did; he grows accustomed to it and becomes no longer tired and exhausted. He is living upon a higher plane of vitality, he lives more fully—yet he requires no more rest and sleep. He has tapped his reserve—which is what too many of us fail to do; we go along too much on one level. We all should strive to live more fully during our waking hours; and then we sleep more deeply and restfully at night without necessarily sleeping any longer.

*Warm Hands and Feet.*—The extremities should be warm for getting to sleep promptly and for the best sleep. They may be warmed by suitable exercises or in warm water, or in cold water with friction, or with a hot-water bag or bottle or other suitable means of applying heat in the bed. When the extremities are cold the blood that they should have is circulating through the rest of the body, including the brain, and sleep is difficult or unrefreshing.

*Air Bath.*—Often a complete air-bath before retiring induces more prompt and deeper, more refreshing sleep. The air-bath may be taken at any season of the year. The colder the air the greater the relaxing effect in most cases after becoming warm in the bed, and this induces sound sleep.

*Massage.*—Some cases of insomnia are benefited by massage.

One should not depend upon this, however, if possible to avoid it because it is not uncommon for the body to get to depending upon it. Instead of massage, friction may be applied by oneself or by another. A neutral bath often is much better than massage, and is easier to get away from in the future. Deep breathing exercises will have a good effect in many cases. Sometimes a long walk or a brisk shorter walk will induce sleep when seemingly nothing else will. A combination of a walk of moderate length with moderate deep breathing is one of the best sleep inducers.

*Late Suppers.*—Often the sleep is disturbed or one finds it impossible to go to sleep because of a heavy dinner; but more often a full stomach upon retiring induces a "dead sleep" from which one awakens, as a rule, without a feeling of recuperation. In many instances, however, a glass of warm milk or a bowl of milk toast or something equally light will insure prompt sleep and sound recuperative sleep.

*Position During Sleep.*—One should be able to sleep in any position. In fact, while asleep one possibly may assume every position possible for sleeping during the night. Physiologists have observed many people during sound sleep, and find that twenty minutes is about the maximum length of time one will hold a certain position. It is possible, however, to attempt to go to sleep in a certain position, although some can go to sleep within a few minutes after retiring regardless of the position they assume—and this is more nearly normal. What may be considered a normal position is lying on a "front corner" of the body—with the head slightly turned to one side. In this position a pillow is unnecessary or if used it should be very low.

Fresh air is necessary for complete recuperation during sleep, but there should be no air currents blowing over a person if at all sensitive to them. One is apt to dream more with any

stimulation of the skin, or with any stimulation of the sense of hearing by unnecessary noises, or of the sense of sight through lights. The body should be warm, but not too warm; with enough covers of as light-weight material as possible, but no more than actually needed.

The mind should be inactive for quickest and best sleep. One must not forget that sleep results largely from boredom —hence our tendency to fall asleep during sermons or lectures. When we cease to be interested in life, we fall asleep. But when the mind is racing along like a mill stream we can not do this. In such circumstances we should endeavor to make the mind as quiet and blank as possible by centering it on some uninteresting subject until sleep supervenes. One may imagine, with the eyes closed, a black curtain stretching as far as the eye can reach. Think of nothing else and try to see it black. Make it as black as possible. If you can see perfect black over the entire field of vision your mind should relax gradually and you should fall asleep.

If one awakens tired in the morning, unrefreshed, not desirous of facing the day, one may rest assured that he has not slept properly. It may be necessary to consider all the factors concerned with proper sleep and make adjustments according to the need. You must take care to remove any causes of wakefulness, and when these are removed, prompt, sound, recuperative sleep should result.

## CHAPTER SEVEN

### Keeping the Vital Organs Fit

**E**NOUGH has been said in preceding chapters to show one the importance of health of the vital organs, though these were not grouped or specifically mentioned. It is possible for one to develop physical strength above the average without developing organic strength, and in fact at the expense of organic strength. It is much better, if a well-rounded and complete development muscularly *and* organically can not be developed, to develop the inner strength rather than the muscular.

The activities of normal childhood should aid in developing organic strength, strength that will last for many years. But the conventional mode of living is such that the benefit derived in childhood is largely dissipated before middle life is reached, for by this time many of the organic and degenerative diseases are well under way. There is a steady increase in these diseases, yet there is no need for such disorders. If we would realize the importance of maintaining a strong heart, normal blood-vessels, healthy kidneys and active liver, normal intestines and colon and vital internal secretion glands, we would do much toward continuing good health into old age.

*Diseases of the heart* lead all other diseases in the cause of death after middle life. Along with the heart disease is disease of the blood-vessels. The heart is one of the most remarkable organs that we have, in that it can withstand many times its normal amount of work and yet recover from the strain; yet there is a limit to its endurance, and when this

limit is reached the curtain of life descends—and there will be no earthly curtain calls afterward.

Diet has a great deal to do with the health of the heart and blood-vessels, because the structures must receive ample amounts of constructive and reparative and maintaining elements, and for long life they must be free from toxic irritation from wrong foods, near foods, harmful combinations and excess of food. A natural diet is one of the best means of preserving the heart, but even a natural diet should be taken only in the quantities actually required to support the body. Diet already has been stressed in Chapter II. If one follows the diet suggestions given in that chapter, a long step toward preserving the heart and blood vessels will have been made.

Exercise is of extreme importance in building a strong heart and in preserving the heart, and the blood vessels as well. Without adequate use of the muscles of the body the heart can not develop to its maximum strength or even to sufficient strength to carry one into old age. The subject of exercise is taken up in Chapter III; but a point of importance in relation to the heart and blood-vessels is the avoidance of over-exercise.

Many enthusiasts go into exercise with a determination to secure within a short time what it should require many months to achieve. In this way the heart and the blood-vessels are over-strained. There may be no telltale signs of this strain until later, perhaps after a period of a few years of comparative inactivity. But there are many others who in their choice of exercise have made the error of selecting types of exercise too strenuous for the natural strength and capacity of the heart and vessels. There are others who in their daily labor drive the heart beyond its strength. In these cases there is a gradually developing strain, which will be followed sooner or later by definite heart lesions or heart weakness.

Strenuous exercise or labor combined with overeating, or either of these alone, will tend to a gradual weakening and hardening of the blood-vessel walls leading the way to arteriosclerosis and often to apoplexy of the brain, kidney or other vital structure. Even if no such catastrophe occurs, a generalized sclerotic condition of the blood-vessels may lead to malnutrition, degeneration of the tissues or organs, and other degenerative effects.

Coffee and similar stimulating drinks, alcohol and tobacco, all have their detrimental effect upon the heart and blood-vessels. Syphilis has a very pronounced degenerative effect upon these tissues.

The above will serve as suggestions for the one interested in preservation of health of the heart and blood-vessels and maintaining such health. Once the heart is "gone," there is no substitute. While it has remarkable "come-back" capacities, it can not recover if degeneration has developed beyond a certain point. The wise procedure is to live in such a way that the circulatory system is developed reasonably toward its maximum, yet without strain or destructive influences. Then the heart will not give out suddenly as it does in the case of many people who are considered "the pictures of health"; nor will it before its time cease to perform its normal duties of forcing and carrying the life-stream to every organ, tissue and cell in the body.

*Disease of the kidneys* is a close second to diseases of the heart and blood-vessels as causes of death, and such diseases are steadily on the increase.

The function of the kidneys is not a definite work like the heart performs nor like that of most of the other organs. The kidneys serve us as filters. Their function is to separate and pass out from the body certain toxins and waste products in solution. They will do this far beyond the allotted

three score years and ten, which is supposed to constitute the normal span of life, if they are not called upon for excessive work in filtering these toxic waste-products and acids.

It is largely through the heavy, rich, excessive and acid-forming foods of today that the kidney structure is irritated, then inflamed, and finally destroyed. Such a diet throws into the blood-stream excessive amounts of waste products of a highly irritating character. The kidneys will eliminate these, even in excessive amounts, for a considerable length of time; but eventually irritation will result in definite injury to the delicate kidney substance, and kidney disease then develops comparatively rapidly. One unfortunate fact in regard to kidney diseases is that they usually are insidious in nature and in most cases are comparatively well developed before they even are suspected.

Another reason for kidney disease is failure to use enough natural fluid to keep the waste products and other substances passing through the kidneys in a well diluted form. Many of us drink insufficient water, for health's sake, also too little milk and little or no fruit juice, although we may take considerable amounts of such fluids as coffee, tea, cocoa, soda fountain beverages, beer and liquors. All of these have a direct irritating effect upon the kidneys. Many persons consume an inadequate amount of watery vegetables also, thus depriving themselves of fluid and the protective mineral elements.

In order to preserve the kidneys the natural diet should be followed, with a minimum of protein, especially of flesh foods; lighter foods such as fruits and vegetables should be considered a vital part of the diet and not merely as seasonal fillers. A reasonable amount of exercise should be taken, but not excessive amounts, as this throws upon the kidneys the extra work of eliminating the wastes produced by the destructive

type of exercise. Ample fluids should be taken to keep the urine well diluted.

The *liver* is the largest gland of the body and has a variety of functions to perform. It is one of the most important of our organs, and is the body's laboratory for building up certain elements and for tearing down and neutralizing others. A diet rich in starches and sugars and so called rich foods in general, and rich in flesh foods particularly but over-rich in all proteins, will cause in time a breakdown of some parts of the liver laboratories. As with the kidneys, so the liver requires a natural diet within actual needs of the body, and plenty of fluid to insure the best work and long life.

The *small intestines* and *colon* usually are not considered as important vital organs in any enumeration of such organs. But certainly the body would be badly handicapped without these structures, and is handicapped when these structures are not functioning up to par. Enough has been said in the chapter on diet to acquaint one with the necessity for a natural diet in maintaining normal muscles, circulation, nerves and glands of the entire intestinal tract. When this tract becomes sluggish or in any other way becomes abnormal, the body usually absorbs unnatural products resulting from an unnatural change in the food residue, and these products unfavorably affect every part of the entire organism.

Among the *glands* of vast importance are the thyroid, the adrenals, the gonads (the testicles in the male and the ovaries in the female) and the pituitary. Unnatural modes of living lay extra stress upon these glands and cause either their over-stimulation with ultimate reaction with deficient functioning as a result, or perhaps their deficient functioning immediately. There is no specific requirement for the preservation or the improvement of any defective gland—except occasionally the feeding of prepared animal glands. Living for the highest

degree of health in general will mean living for the health of the glands. We are what we are in great measure because, of the action and secretions of these glands. They affect us physically, functionally, mentally, emotionally, and in every other way they largely control our entire personality. They require the same types of foods and the same elimination that every other structure in the body requires. They require normal activity and normal relaxation. The skin, the lungs, and every other part of the body that can receive special attention should receive it for the sake of the glands, as well as for the sake of any and all other parts of the body.

In order to keep the vital organs fit, then, it is necessary to live reasonably close to Nature and to avoid those stresses and strains so common in present-day living. Nothing will be gained by developing a musculature that may be considered superb if the vital organs have been taxed beyond their normal capacities, for they will play out soon in spite of the physical appearance, and in spite of powerful muscles. For long life and for getting the most out of life organic fitness is absolutely essential. Organic health can be maintained, and it can be recovered if not too greatly lost. It is far better to preserve it than to hope to recover it after a decline.

## CHAPTER EIGHT

### Keeping the Eyes Fit

**T**HREE is no more marvelous organ in the body than the human eye. After evolutionary ages, the eye has become probably the most exquisitely adjusted, perfectly controlled and wholly extraordinary of all our organs. It has the strength and endurance, normally, to give perfect service for a long lifetime. Its function of sight is a channel through which you know the world you live in, the chief instrumentality in doing your work.

The function of sight is unexplainable. We know that we see, but how we see no one knows. We do not see with our eyes, but with a portion of our brain—and that portion is in the back of the head! Our eyes are mainly a series of lenses and media through which light-rays pass to be focused accurately upon specialized nerve tissues in the back of the eyeball. In some unknown manner these impulses travel back over the optic nerve, over which they reach the center of sight in the back of the brain. The process is not unlike that used today for the wirephoto: a picture is not sent as a picture by the wirephoto process, though it starts at one end as a picture and the impulses that travel through the air are picked up and reassembled as a picture at the other end. As with vision, the image itself does not travel back over the optic nerve to the brain, there to be registered as a picture, but impulses that travel are interpreted as a picture, which seems to be recorded in the eye. Vision truly is a marvelous thing, and the eye is truly an extraordinary organ.

One whose work depends largely upon the constant use of

the eyes needs strong enduring eyes that are capable of a long day's work without fatigue or strain. But whether or not you need your eyes for work, you need them for many of the joys and delights of this world, and vision becomes one of the first essentials of happiness.

Authorities have variously estimated that one out of every three or four persons in the United States suffers from some weakness or defection of the eyes, and a large percentage of these people wear glasses. There are a great many more who have defective vision who would wear glasses if they followed the advice of an oculist. So it may be recognized that there are uncountable millions or more people in the United States who have weak or crippled eyes. There is no more justification for these defective eyes in many of such cases than there would be for millions of defective legs or other members of the body.

Much of the eye weakness of today is due to wrong use of the eyes. Eyestrain is one of the most common complaints the ophthalmologist prescribes for. The underlying condition may be lowered general health or nervous disturbances, but in many instances practically the sole cause is failure to use the eyes properly.

Most people read by what is called eccentric fixation. That is, they skim over their reading matter and never see any part of it with complete distinctness. Their vision of things about them usually is just as scattered. This leads to defective vision and eyestrain. Central fixation is the proper way to use the eyes, and it is absolutely necessary to correct many of the eye defects.

By central fixation one learns to see one thing at a time and see that closely. To practice it at first, it may be necessary to use a minute point, such as a period or a small point of a letter or of any object, and make sure to see it with absolute

distinctness. If this is done for a time much eyestrain will be alleviated and even nearsight, farsight, astigmatism and old-age sight may be relieved or entirely corrected by the same method.

Very excellent additional practice is to use a fine point, such as a penpoint, holding this at a distance from the eyes where it is best seen and then slowly moving it toward the eyes while keeping it in perfect vision, bringing it as close to the eyes as possible, even to the extent of causing pronounced cross-eyes. From this close focusing the vision should be shifted to any point beyond twenty feet and then centered on the smallest possible point that can be clearly visualized. The vision should travel back and forth between these near and distant points several times.

The conventional method of treatment of the eyes today is through the use of glasses, which supplement the lenses of the eyes. The tendency when glasses are worn is for the eyes to accommodate themselves to the lens strength; and because they do not have to accommodate the vision as greatly to visualize objects they tend to grow weaker. Another detrimental effect of glasses is that there can be no shifting of the lens of the eye, such as takes place in the unaided eye. Normally the lenses of the eye maintain a certain focus only for the briefest moment and are continually fluctuating between perfect focus and less perfect focus. In this way the eye obtains rest. It is impossible to maintain a constant vision on any one point for as long as a minute at a time. With glasses there can not be this fluctuation of the lens. Consequently the eyes do not secure their rest, they become strained and in consequence weaker.

The eyes can be strengthened just as any other part of the body can be strengthened. A great many people have discarded glasses or been able to avoid glasses after having had

them prescribed, by the focusing exercises mentioned above and by general eye exercises.

The eyeball is more or less surrounded by external muscles that move the eyes upward, downward, laterally in both directions, diagonally upward and downward in both directions and circularly. By exercising these muscles by a routine involving suitable movements of the eyeball, a great deal can be done to strengthen the vision. It is these muscles that lengthen or shorten the eye-ball when focusing for near and distant objects, just as much as the lenses within the eyeball conform to accommodate for near and distant vision. Exercises for these muscles will improve the local circulation, and this is of considerable importance; in addition they make possible better results in the lengthening and shortening action of the eyeball for vision at different distances.

Obviously, when one is suffering from eye defects it is wise to make an effort to develop the entire physical organism to a high degree of vigor. Every health factor should be included in one's daily program for rebuilding the health, but one of the best single factors is walking. Long walks are especially valuable for the general vitality, and because they give excellent opportunity for practicing near and distant vision while changing the object of vision. In building the health for improving the eyes, it is necessary to improve the quantity, quality and circulation of the blood, the general muscular tone, the nerve tone, organic vigor, elimination—in short, it is necessary to rebuild the body as much as is possible.

## CHAPTER NINE

### Mind—A Master Force in Health or Disease

**T**HE mind undoubtedly is a master force. It is not limitless in its power, but it may be truly said that the mind may make or break one.

We hear of many miraculous achievements in the building of health and the cure of disease through mental influence. By many people it is claimed that the mind can benefit only imaginary diseases. It is true that there are imaginary disorders, and yet when one is sufficiently abnormal that he can produce various symptoms through the imagination there is something decidedly wrong—the person is diseased to that extent. Diseases that are imaginary and diseases that are brought on largely through fear, anxiety, worry and other depressing mental processes, usually will respond readily and quite rapidly if the mental processes can be reversed, the fear and thought of disease removed from the mind, and a wholesome, happy outlook upon life cultivated.

But there are many diseases not concerned directly with the mind and not due directly or indirectly to adverse mental influences, which respond largely or at least more rapidly to a healthful program when the mind is directed in such channels as to encourage the functions of the body and the life processes.

Health, strength and vitality certainly favor a cheerful, positive, courageous outlook upon life. Happiness and health are close friends. It is difficult to be gloomy and miserable when one is healthy. It is perhaps even more difficult to be healthy if one is gloomy and mentally depressed.

Therefore, it is a very wise precaution to cultivate a hopeful frame of mind. One should endeavor to radiate good cheer at all times. What if the day is gloomy, the sun obscured by clouds? Cultivate the sunshine in your own spirit. Those who need a sunny day and cheerful companions to be cheerful themselves need to cultivate the ability to be cheerful alone and when the sun fails to shine.

One important fact to remember is that it is very difficult to be gloomy and depressed when doing something for someone else. If one, no matter how depressed, endeavors to cheer up others, just the mere effort to remove a burden of depression from someone else will remove the depression from the Samaritan. Therefore the best way to help yourself is to help others.

Christian Science is a remarkable exemplification of the value of mental influence. Remarkable results have been attributed to the principles it advocates. This is admitted, by even the most prejudiced critics of this cult. These cures alone indicate clearly that the mind is the dominating force that works for good—or for evil. They prove that one's thoughts are building up or tearing down the vital forces; that to a certain extent "thoughts are things," that good thoughts are a really tangible influence for developing mental or physical force, and that bad thoughts have an opposite influence. It is well for every one of us to determine whether the thoughts that fill our mind each day are constructive or destructive in nature.

Bear in mind that thoughts can actually destroy. The writer recalls one woman who quite frequently flew into an extreme rage, and after each time she would be sick in bed for from three to five days with extreme biliousness, not to mention severe headache, cardiac palpitation and numerous "minor" symptoms. In one of these outbreaks, the end came

suddenly. Her convulsions destroyed her as a bullet fired from a rifle would have destroyed her, even if somewhat more slowly. Many people do not have such extreme effects of emotional outbreak. It might be better if they did suffer more, since in many instances they would become of better disposition if only from the selfish motive of self protection.

There are a great many people who have the worry habit. Everyone knows that worry can not benefit anyone. It produces misery and has brought thousands to an untimely grave. Many of our problems require concentrated attention and consideration for their solution, but worrying provides no solution. If a problem can be solved, the necessary constructive thinking should be devoted to the solution. If it can not be solved, worry for twenty-four hours a day will never bring the answer.

Two thoughts can not occupy the mind at the same time. This is self-evident. If thoughts of a destructive, depressing nature such as worry, anxiety, the "blues" and other undesirable mental processes are underway, unless one is a definite melancholiac the thoughts can be made to give way to thoughts of a more uplifting character. And so long as these latter occupy the stage there can be no return of the depressing emotions.

Too many people live in the past, particularly the undesirable past. It is necessary in many instances to cultivate the forgetting habit and to cultivate health and good cheer, optimism and plans for the future. Worry should be banished as a mental poison—and it can be banished completely. It may be, and usually is, necessary to build a high degree of health. As the health improves ever so slightly there should be encouragement to continue on the beneficial program, and at the same time it will be easier to banish, if only temporarily, undesirable thoughts. If continued, healthful living will ban-

ish the worry habit while it is building up superb health. Self-pity is another evil, closely allied to worry. There are a great many people whose entire mental processes are motivated by self-pity, because of sorrows and troubles through which they have passed. They make themselves and their friends miserable by their re-living in detail their past calamities. There is no need whatever to harbor past experiences that are depressing. One good way to lose friends or to fail to make friends is by asking them to share your miseries. If one can not escape from the evil of self-pity, at least one can keep his broodings to himself. However, it is much wiser and manlier or more womanly to avoid such thoughts—and the memory of these experiences will gradually fade away. The past is gone. Live only in the present and for the future.

Hate, avarice, envy, a hypercritical spirit—these all are poisonous in their effect upon the body and should be avoided as one would avoid any other poison. There is enough good in the world, there are enough joy and enough things for personal possession that one does not need to harbor hate, avarice, greed, envy and such. One may not have as much of the world's goods, as attractive features or as pleasing a physical body as another, but one can secure as much comfort in life with what he has as can those more fortunate. Many people who have been happy and contented with little of the world's goods have lost their contentment when fortune smiled upon them. There is much more to be gotten out of life than wealth. Money can buy only so much food and clothing and shelter. If one has enough of these, he does not need to complain. Many who have had an abundance of everything material have found true happiness when their possessions were lost. Things can be taken from one. Knowledge, health and happiness belongs to the individual and no one can take these desirable possessions from one.

Let the attainment of truth be your aim. Truth is magnificent, and it is tremendously weighted with power. Whatever your ambitions or hopes in life may be, seek for the truth. In some cases the road that leads to this goal may be devious and hard to follow; dangers of all sorts may beset one as one struggles along the rugged pathway that leads to truth. But the rewards will amply repay you for every effort.

Do not be a leaner. Try to stand alone, and be yourself. Bring out your own personal characteristics. Do not be a stereotype, a parrot, a copyist. Let others live their own lives; you see to it that you live yours. Many of our public schools are educational factories turning out products stamped exactly alike. Individuality is crushed out. But the child is not like so much clay, to be moulded into any form. It is instead like a precious crystal to be shaped with regard to its original nature. Each human soul is an uncut diamond. If developed, the capabilities and powers within the mind achieve results to be expected only from exceptional human beings.

Therefore, be yourself. Hold up your head and throw back your shoulders. Remember that your life and all its possibilities belongs to you. You may find yourself inspired by such a thought. It is a stimulating state of mind. Many men and women have found that upon the cultivation of this mental attitude they have found influences that led them step by step out of the valley of depression. Be inspired by the dominating determination to get all possible out of life—and to get the most out of life it is necessary to be prepared to give much to life.

## CHAPTER TEN

### Understanding and Overcoming Disease

**H**EALTH is the normal state of the body, and is a condition that may be recognized readily. Its indications may be described as similar even in widely varying types of persons. Also, as a rule, there is a general similarity in the energy and efficiency of the organic and mental processes that reflect normal health.

Ill-health, on the contrary, presents itself in widely varying forms. Not only is this true of the surface indications of ill-health and disease, but of internal effects. Despite this, closely-related conditions exist behind practically all forms of disease. To treat the various symptoms that may be in evidence, and to ignore the basic conditions of ill-health that are responsible for these variable symptoms is neither intelligent nor effective.

Plainly expressed, the ability to definitely recognize various forms of disease may prove to be a secondary, and not a primary consideration. Ability to relieve disease, as a rule, is more important than ability to accurately diagnose forms of ill-health. Certainly this is likely to be the point of view of the patient. Yet there may be advantages in understanding the causes, the symptoms, and the most effective treatments that experience associates with definite forms of disease. When similar procedures can be applied in one's own case, and with success, penalties that may be costly beyond financial computation may be averted.

So it is found that in this discussion of Keeping Fit, the most extended chapter is devoted to a brief list of forms of

disease alphabetically listed under titles understandable to the layman. It is recognized that only a scattering few disorders of mankind may be presented in such limited space. Under the forms of disease mentioned here it is designed that symptoms and treatment should be so discussed as to enable the reader to deal with other disorders that may arise from the same sources, and that may be amenable to similar forms of treatment. This possibility has been the objective of the author in presenting the information that follows.

### **ADENOIDS AND ENLARGED TONSILS**

The tonsils are not organs without functions to perform, yet from their frequent removal one would gather that they are inherently a menace. Adenoids are not unnatural tissues, but are natural tissues gone abnormal through wrong conditions within the body. Yet adenoids and enlarged tonsils have been extirpated by the millions—in many cases because mothers have not been informed how to nourish and care for their children in such a way as to avoid these abnormal conditions.

Why do we have affections of the tonsils, and why do we have enlarged adenoids? The answer is simple: health-destroying practices are followed by parents and taught to their children. There are many factors of living that unfavorably influence the adenoid tissues and tonsils, and in some instances every possible factor of a detrimental nature has been at work to disturb these tissues.

The average family today uses an excess of carbohydrate foods in the diet. As explained in Chapter II, the growing child needs proportionately more of these foods than does the adult; but naturally there is a limit beyond which a child should not be fed these fuel foods. Too much of the cereals and their products, potatoes and sugar particularly are used,

and in many cases too much of the fats as well, especially cream and butter. These foods are acid-forming and they produce a catarrhal condition within the body. This reacts upon those tissues which are designed for protection through the destruction of certain waste products and through the elaboration of certain subtle substances which reach the blood-stream. Tonsils and adenoids are such tissues and they enlarge for the body's protection—not because they have gone on a strike of their own accord.

It is not only the fuel foods, however, that help to cause these conditions. Too much meat or other protein and the rich foods such as gravies, pies, cakes, desserts and so on, have similar effects. All of these foods may be taken without great detriment if they are taken in amounts that are within the body's needs, although it would be better if some of these never entered into the diet of our children.

Prominent additional causes are: failure of parents to see that their children exercise, secure enough outdoor play and enough ventilation indoors, that their elimination is adequate, their skin kept free from accumulations and toned sufficiently for normal responses to the body's needs, and to obtain adequate sleep and, during the first few years of life, adequate day-time rest.

When these "first lines defense" become broken down, the first consideration usually is to remove them. Many times all that is required is to *allow* them to mend. This they will do in many cases if diet and general mode of living are adjusted so as to aid these glands and tissues. There may be instances where the tonsils are charged with pus, or so diseased by frequent "infection" that operation will be required; but in the majority of cases the tonsils can be left in the body and they can be made to assume normal proportions and perform their functions normally.

The diet in such cases should be much simpler than a child usually receives. The usual breakfast provides starches and proteins and perhaps twice as many calories as are required. When there are adenoids or affected tonsils good breakfast is dry toast with a little butter, or a dry cereal with a little rich milk, some naturally sweet fruit, and a glass of milk. If a cooked cereal is used it should be taken with a sweet fruit so that it must be masticated.

Noon-day lunches may be of any wholesome bread or hot cereal, a cooked leafy, non-starchy vegetable or two, a little salad or raw fruit and a glass of milk.

The dinner may be a starchy food, for instance a whole baked potato, with one or two cooked non-starchy vegetables, a salad and a raw sub-acid fruit. A glass of milk may be taken to complete the meal.

If the child's weight does not progress favorably on such a diet one should increase the amount of each of these foods at each meal. Simplicity in menus is important, and it is necessary to avoid an excess of starches, sugars, fats and proteins, much as these are needed by the growing child. In addition to these meals, fresh fruit may be given in the forenoon and in the afternoon; or perhaps a glass of milk at one or both of these times. Since the child will need relatively more protein while growing, nuts may be provided at one of the meals, or cottage cheese may be used, or legumes such as peas, beans and lentils, or any of the other wholesome proteins occasionally. One should not forget that the best of all proteins is found in milk and in cottage cheese.

The other factors of health have been hinted at in earlier pages, but if the reader has read the first chapters of this book it should not be necessary to enlarge upon the fact that the child must have every health factor that an adult must have.

Often much can be done to reduce tonsils by the throat pack. For this, old sheeting should be used, two or three thicknesses and about three inches in width. This is wrung from cold water and applied snugly about the throat, then covered with two or three thicknesses of dry woolen flannel at least an inch wider so that all of the wet pack beneath will be completely covered. This should be applied at night so that the moist heat generated under the pack will be operative throughout the night for reducing congestion. Upon its removal in the morning, the throat and neck should be bathed with cold or hot and cold water and then carefully dried. It is well also to use a gargle if the child is old enough. A moderately strong salt solution may be used, or salt, baking soda and boric acid, equal parts—a teaspoonful of the mixture dissolved in a glass of water. The gargle may be decidedly hot, followed by a cold gargle, or at either temperature alone.

In some cases, considerable benefit will follow gentle massage of the tonsils. The mother's or nurse's finger may be covered with sterilized gauze or a clean handkerchief or sterile cotton, and then gentle rotary pressure given upon the tonsil. This should be avoided in case of acute inflammation; but in many cases where there is pus in the tonsil or where the crypts are filled with a white cheesy substance, the finger may be used in the same manner to exert gentle pressure in such a direction as to express the pus or cheesy substance out of the tonsil onto the finger protection. Hydrogen peroxide and water, equal parts, may be used for a gargle or a swab after expressing either the pus or the cheesy substance from the tonsil.

Another application of benefit to the tonsil is equal parts of tannated glycerin and tannated phenol. A cotton swab on a wooden applicator may be used for this, but care must be taken to express all surplus from the swab so that there

can be no dripping, and to apply the swab only to the tonsil. This has an antiseptic and shrinking effect.

Adenoids, as stated earlier, are normal tissues, but enlarged for reasons that have been mentioned. They are normal to childhood but generally vanish by the time of puberty. They are located at the roof of the throat just back of the posterior nasal passages. When this adenoid tissue becomes pronouncedly swollen the breathing is affected, the child becomes a mouth-breather, the palate often is pushed upward and the teeth thrown out of line. The whole respiratory apparatus is adversely affected, for the lungs are denied air that normally should be strained, moistened and warmed by passing through the involved nasal cavities. Laryngitis, pharyngitis, bronchitis and asthma often result from mouth-breathing.

Often swollen adenoid tissue does not respond as rapidly or as completely as do enlarged tonsils. But if the mode of living suggested is adapted, with special care taken to see that all eliminative organs function up to normal, there probably will be a shrinkage of these tissues. However, the operation for the removal of the adenoid growth is very simple, and usually there is no recurrence after their removal. This is an operation where harm extremely rarely results. If the parents cannot or will not keep the child on such a health program as will permit the adenoids to gradually reduce, then by all means this tissue should be removed. Adenoids are a handicap to physical and mental growth and, naturally or unnaturally, they should be removed.

Briefly enumerating the most important points in rebuilding the health so that adenoids and enlarged tonsils may be reduced:

Insure that the child secures ample open-air activity, with sufficient opportunities for both day-time relaxation and night-time sleep.

Secure ample ventilation in the play-rooms and sleeping-rooms, but at night be assured that the child is amply covered for warmth.

Provide such a diet that bowel activity will be normal. Exercise will help in accomplishing this. Have the child drink freely of water, that kidney action may be normal also.

Avoid over-dressing the child, but provide it with what clothing is necessary for warmth. Coddling a child is one of the best means of bringing on colds, catarrh, adenoids and enlarged tonsils.

Without abusing the child or risking over-exposure, endeavor to "harden" the child so that it can react normally to cold water and to cold air.

Of further aid in this hardening process, begin as early in childhood as possible to give the cold wet-hand rub as a tonic bath. The warmth of the mother's hand will soften the shock of the cold water, yet the latter will have a tonic effect. In time, graduate to the shower, tub or sponge bath, lowering the temperature gradually from week to week until the child can take and enjoy a decidedly cool bath. Always there must be good friction and drying at the termination of a bath, to insure reaction to normal warmth.

The diet being the most important factor, it will be necessary to pay particular attention to the foods selected, the number of meals, and the type of food and the manner in which the food is eaten. Provide natural foods as much as possible. Avoid mush-like starchy and devitalized foods, also rich foods and pastries. The child should never have anything other than whole grain products, fruits, vegetables and milk, though egg-yolks are valuable also. The child should have at least a quart of milk a day. See that all foods are masticated well and not washed down by milk or any other fluid.

Three meals a day are sufficient for any child, though a

juicy fruit may be used for a "snack" if the child seems actually hungry. Never coax a child to eat. Provide the best foods for it, and if it has been an active youngster it will eat if there is nothing wrong with it, such as a developing disease, or unless it overate at the preceding meal or at the between-meal lunch—which should have been avoided.

Adults can be treated for enlarged tonsils much as has been outlined for children. Local treatment usually will help them just as it will help the child, although perhaps more slowly.

Defective adenoids and tonsils would not develop were the body properly treated, whether in childhood or adulthood. If they develop, or are developing, right living will often help to degorge them and allow them to return to a more normal condition.

### **ANEMIA: GOOD BLOOD AND HEALTH**

Anemia is a condition of deficiency in the amount of blood or in the number of red blood corpuscles or of hemoglobin. There are various forms of anemia: acute anemia, chronic anemia, chlorosis, and pernicious anemia. There also are primary and secondary anemias.

*Primary anemia* is apparently an independent disease resulting from some defect in the blood-making organs or from some influence that destroys the blood cells after their formation, though the exact cause usually can not be determined. Pernicious anemia, also chlorosis some maintain is a primary anemia.

*Secondary anemia* results from some other disease or condition that can be determined or discovered: including hemorrhage, lactation, albuminurea, cancer, suppuration, toxic agents such as lead (poisoning), and bad hygiene.

*Acute anemia* always occurs as a result of sudden loss of blood. This may be by internal or external hemorrhage.

Surgical operation often is responsible for it, or some injury, or such a condition as an ulcer of the stomach, or a rupture of a blood-vessel in any part of the body. Some of the diseases of women result in this anemia. It may develop within a few hours or over a period of several days. Anemia so produced is not a disease. All the organs that have to do with making blood are in normal condition and will repair the loss of blood within a comparatively short time if blood-making foods are supplied and general hygiene is maintained.

*Chronic anemia* is slower in development and longer in duration. It is present in women more often than in men. Women average ten per cent. less blood than men of equal weight; the number of their red blood cells is lower and their blood is affected by two functions peculiar to their sex: menstruation and lactation. Intestinal parasites cause chronic anemia quite frequently; so also do chronic dyspepsia or indigestion, or constipation of a severe degree. Fever, or the general condition making fever necessary may sufficiently interfere with the nutritive processes as to result eventually in chronic anemia.

*Chlorosis* or *green-sickness* is a peculiar form of anemia beginning at about the age of puberty in young girls when they are maturing. In addition to the general symptoms of anemia to be given below, there are a peculiar greenish hue to the skin, a perverted appetite in which there is craving for unnatural articles of food, and frequently attacks of severe stomach pains. The mind may be dull or seemingly in a stupor, and there often is vomiting, also double vision. The specific causes of chlorosis are not definitely known, but there are the usual causes of the other forms of anemia plus, doubtless, some malfunctioning of the glands that are being readjusted for womanhood. The artificial environment surrounding young girls, and general devitalizing habits par-

ticularly at this critical period in life, tend to cause this trouble.

*Pernicious anemia* is a rare form of anemia and seems to be of comparatively recent origin. Pregnancy is a vulnerable period for its development, especially when several children have been borne in rapid succession.

However, men are more susceptible than women. In these the cause usually is undetermined. It is a serious condition appearing usually in middle life.

*Causes.* Except for the acute form, anemia is a result of systemic toxemia and acidosis—a condition of poisons, toxins and accumulated waste products floating in the blood- and lymph-streams, and of enervation or lowered nerve-tone. There is either an accumulation of these injurious substances due to failure of eliminative organs to handle a normal amount of such products, or they are produced in such considerable quantities that even normal organs, eliminating a normal amount or more than a normal amount of eliminations can not remove them rapidly enough. They have the effect of poisoning the organs that make the blood cells, which produce a deficient amount of blood cells or altered blood cells.

Constipation, insufficient food or any failure of the assimilative mechanism, wrong food or wrong eating habits, indigestion, close confinement, insufficiency of adequate sunshine and fresh air, and dissipation of energy in numerous ways are the leading factors underlying the development of this condition.

The following symptoms of anemia in general are present in this form, plus a lemon-yellow hue of the skin, due to marked changes in the blood, especially in the red blood corpuscles.

*Symptoms.* These symptoms may appear slowly or rapidly,

depending upon the cause, but they include: pallor, cold and sometimes clammy skin, giddiness, weakness and faintness, noises in the ears, swimming before the eyes, a soft, feeble and rapid pulse, low or subnormal temperature, restlessness, air-hunger or shortness of breath on slight exertion, cold extremities and face, pinched features, fading of color of the gums and the lining of the upper and lower eyelids, whiteness of the finger-nails, nausea and loss of appetite. Convulsions may occur later. If due to sudden loss of blood, there may be collapse if the hemorrhage continues, and death may result if this loss is considerable or uncontrolled.

*Treatment.* As with any other condition, the cause should be found and remedied if at all possible. In any case, however, it will be necessary to undergo general blood-purifying processes and prepare the way for producing more and better blood. It is necessary that the anemic individual be well nourished; but over-feeding must be avoided, as it will either aggravate the toxemia or the hemorrhage or both. In acute cases, if the loss of blood has been checked permanently simple means will bring about restoration to normal unless there is some serious underlying condition that prevents adequate nutrition, such as ulcer of the stomach or intestine. Usually in these cases a wholesome diet rich in iron and all of the other necessary elements will quite quickly restore the blood to normal. There should be fresh air and sunshine provided, with rest at first and later gradually increasing activity, depending upon the absence or presence of any underlying serious condition modifying physical activity. Milk should form a good part of the diet in every case when possible.

As for chronic cases, an aseptic diet is one of the chief essentials. By this is meant a diet of fruits and vegetables mainly, with little or no meat, cereal, or other starches and

none of the injurious foods and food combinations, food conglomerations and harmful food products. Milk and milk products, egg-yolks, cream, green vegetables, sweet and juicy fruits, and sometimes liver, should form the diet. Sometimes special food preparations may be used, particularly those providing vegetable iron. Liver extract may be used, but is particularly of benefit in pernicious anemia.

In the chronic form a fast often is one of the best means of starting improvement. Many people fear the fast in this condition because of its associated weakness. But since one factor in the causation of the disease is toxemia, the fast is one of the best means of quickly getting the blood in a normal condition. Strength often increases from day to day in these cases even as the fast is continued. It is not necessary to continue the fast long; but if possible it should continue until a normal hunger returns. Instead of an absolute fast, fair quantities of orange or grapefruit may be taken—either the fruit or the juice; or tomato juice or any other fruit juice or berry juice, such as loganberry or blackberry juice, may be taken.

The strict milk diet is a very excellent diet to use in such chronic cases. If one is below normal in weight the full milk diet may be used. Many over-weight people are anemic. These may take the milk diet also, but should so adjust the quantity that there will be a slow reduction in weight. But at the same time there is better nutrition and the formation of better blood. If this strict diet is not taken there should be an abundance of milk in the diet chosen.

Gradually increasing exercise, particularly gradually-lengthened walks should be taken, with the addition of light sports as improvement is noted. Nude sunbaths will be of great benefit and should be taken when at all possible. If these can not be secured then ultraviolet irradiations from a sun-

lamp should be used as a substitute. At least every second day a natural or artificial sunlight treatment should be secured. If one can sleep out of doors more prompt results will be obtained. In any case there must be adequate amounts of fresh air, and one should take up deep breathing.

Tonic baths will be of special benefit in these cases, because of the improved circulation of the blood and the drawing out from the blood-making organs of newly formed blood-cells. Sea-bathing and massage may be used with benefit, but care must be taken to avoid over-indulgence in sea-bathing. Gland treatment may be used with benefit also in some cases, but usually will not be necessary if the above-mentioned factors of treatment are carried out strictly. One important factor is to maintain elimination through all channels at normal.

### ARTHRITIS AND ITS RELIEF

By this term is meant an inflammation of a joint, or joints, but today it is used more specifically now to designate an inflammation due to infection from some local focus of suppuration, such as abscessed teeth, tonsils, gall-bladder, or appendix or to gonorrhea. Many cases of arthritis occur without any apparent focus of infection. Practically all cases, however, are due primarily to overeating and other dietetic errors; insufficient elimination, enervation, and general wrong habits of living, although arthritis is classified as rheumatic, syphilitic, suppurative, tuberculous, gouty or as a result of spinal cord lesions or typhoid infection. Arthritis appears in both acute and chronic forms, and with different manifestations. The most important form of arthritis is rheumatoid arthritis (or arthritis deformans).

*Rheumatoid Arthritis.* This is a chronic and deformative inflammation of the joints. It differs from articular rheuma-

tism in that it results in change in form of the joint, due to more or less growth of the bone or to an atrophy or shrinkage of the structures. As the body in general loses weight, with reduction of the soft tissues encasing the joints, the deformity becomes seemingly more pronounced. The condition develops very slowly and insidiously at first, and usually persists for years.

The first symptoms are joint pains occurring during movement of the joints, with reduced movement of the joints especially after rest. Gradually there develops progressive reduced movement of the joints. Only one joint may be involved, but as a rule several joints are affected, particularly the fingers, the hands and the vertebræ. Usually the two sides of the body are similarly affected.

*Acute arthritis* generally is the result of a direct injury to the joints, hence single joints are involved as a rule. If the injury results in an open wound and there is sufficient general toxemia present an infection may result, with the development of pus in the joint. Gonorrhea also is a frequent cause of acute arthritis, in which case several joints may be afflicted. The underlying cause in all cases, except the slight cases resulting from direct injury, is a general toxemia resulting from wrong living habits in general; and even when the result of injury, there will be more pronounced joint affection if toxemia is present.

*Treatment of acute arthritis* consists of complete rest, withdrawal of all food except citrus or other fruit juices or vegetable broths, and local applications to the affected joints, with some means of applying sweat-baths if possible. The best local compresses are cold Epsom salts compresses covered with sufficient dry flannel that reaction to warmth is prompt and complete, and these packs left on for three or four hours. Upon removal, hot compresses may be applied for from fifteen

to thirty minutes, followed by the re-application of the pack above described. It is best to have considerable Epsom salts in the water used for the pack—two ounces to the quart of water. Sweat-baths by means of blanket-packs with the drinking of plain hot water or hot unsweetened lemonade while in the pack, will be very beneficial. Much water or fruit juice should be taken in order to keep the kidneys functioning freely. The bowels should be cleansed daily by the tepid enema. It may be necessary for the patient to remain on a fruit diet for from one to three or four weeks. The later diet in any case should be highly alkaline yet nourishing—fruits, vegetables, milk and whole grain cereals chiefly.

*Treatment of the chronic form* requires fruit juice diet also, though naturally the patient can not be kept on this diet until complete cure or maximum benefit have been secured. From six to a dozen oranges or the equivalent of other fruit juices may be taken daily for as long as weight, strength and energy permit. After this there should be a gradual increase in the amount and variety of fruits, with the addition of raw and cooked green and root vegetables, and with very moderate amounts of whole grain cereals, and some form of milk in quantities usually of a quart or two a day.

Bowel cleansing is necessary in these cases also, but after the fruit diet bowel activity should be secured by plenty of bulk-providing foods. The compresses and packs advised for acute arthritis should be used in chronic arthritis, also an occasional sweat-bath, perhaps two or three a week if the general condition will permit. Hot immersions, especially with two or three pounds of Epsom salts to the tub bath, are very beneficial. Alternate hot and cold applications are of benefit—and in acute arthritis also. Heat by means of an infra-red lamp may be used in arthritis of various forms. Sunbaths should be obtained whenever possible, and there must be

plenty of fresh air at all times. General massage is of value, also often cod liver oil. There are various forms of electrical treatment that may be used if available, especially diathermia and some of the static modalities.

All possible sources of infection, besides, should receive attention, but some of the possible sources will be taken care of by the procedures advised above. The sufferer from chronic arthritis must appreciate the fact that progress toward recovery will be slow. A great deal can be done by following the above suggestions and by manipulating the joints and carrying them through the normal movements of the joints. It will be necessary for the patient to go through more or less pain in these manipulations and movements, but there will be no appreciable improvement unless the joints are moved sufficiently and with sufficient frequency to improve the local circulation and help to break down some of the deposits.

When bony ankylosis has occurred, little can be accomplished in its way of mobility in the affected part; if fibrous ankylosis exist much may be done by manipulative movements. Exercise, whenever it can be taken, is practically mandatory.

## ASTHMA—ITS CAUSES AND TREATMENT

Asthma is one of the most aggravating diseases that humans may suffer. It involves the very breath of life. One of the characteristic features of this disorder is that between attacks the victim may appear and feel as normal as anyone else and yet in a very short time may be in an attack so severe as to cause him to wish for the end of life.

Asthma is a paroxysmal difficulty of breathing resulting from sudden spasm of the bronchial tubes or their minute branches, or sudden swelling of the mucous membrane of these tubes. What produces the hypersensitivity of the

respiratory membrane, which is necessary to the production of asthma, may be difficult to determine. It is associated, however, with heart disease (cardiac asthma), kidney disease (renal asthma) or some outside irritant (hay asthma), or from minor causes. A protein sensitization often underlies the condition. Bronchial, nervous or essential asthma is a form for which a leading cause can not be discovered, though usually there has been inherited a neurotic temperament.

The symptoms of asthma are comparatively similar in the majority of cases. The spasmodic attacks come on suddenly, but without regularity as a rule. Any condition which gives rise to excitation of the nervous system may cause the attacks. Sometimes these paroxysms develop more gradually and are preceded by a sensation of oppression in the chest or frequent or increased urination or a belching of gas, etc. When the attack comes on, breathing is very difficult, particularly the exhalation of each breath. In severe cases the patients often sit with elbows on a chair or desk or table or stand with the elbows elevated by some object in order to be able to use to the fullest all of the auxiliary muscles of breathing.

In these severe attacks the lips become blue and the cheeks pale, the nostrils are dilated and the eyes bulged and the entire facial expression is one of anxiety. The pulse is rapid and the perspiration is copious. The breathing is not rapid, but is difficult and wheezing. There is a sensation as if one is being choked or smothered. Often it is necessary to open a window, or to sit in the open window to secure all the fresh air possible. There often is a cough, which may continue for quite some time before any matter is brought up for expectoration. This matter is tenacious and stringy.

The attacks may subside gradually, but often pass quite suddenly. Their duration may be a few minutes only or many hours. They may be repeated every night or quite

frequently or not for several weeks or even for several months. Irritating vapor or fumes or a damp atmosphere may help produce or prolong an attack. Attacks frequently come on at night.

Hay asthma is quite different from the ordinary varieties. It is excited by such irritating substances as plant pollen, dust, animal emanations and such. The first symptom resembles an acute catarrh of the respiratory passages, which causes sufficient swelling of the mucous membrane to interfere with breathing.

Asthma primarily is a nervous disease, but when continued for many years in a severe form the patient may become gaunt, sallow and hollow cheeked, and the chest may become deformed.

*Treatment.* This is another constitutional disease, hence must have constitutional treatment. Because of the underlying neurotic or highly nervous temperament this condition may respond less readily than do many other diseases, but there have been numerous cases where all symptoms have disappeared permanently. Numerous factors may be necessary in the treatment, but diet will be the first factor in most instances. In any case it will be necessary to build up the nervous energy and to detoxicate as completely as possible.

The most reliable treatment is an absolute fast, which if necessary may continue for as long as twenty, thirty or more days, depending upon the patient's weight, strength and energy. After the fast or in cases where the fast can not be used the citrus fruits, particularly the grapefruit, will be of very great benefit. This fruit particularly seems to aid in clearing the bronchial tubes of accumulated mucus and in bringing new mucus-forming elements to the tubes by the blood-stream.

After the fast or fruit diet the milk diet may be used with

considerable benefit by a great many patients, particularly those who are below normal in weight and those whose nervous energy seems much below normal. But in a fair percentage of cases this diet seems to disagree. Temporarily it does tend to cause the throwing off of mucus, through its effect in speeding up the circulation, alkalinizing the system and aiding in throwing out waste products. But this eliminative effect is so pronounced occasionally that the patient's breathing is interfered with to such an extent that another diet may have to be considered.

There is no specific diet for treating this disease, but a great many cases do well with two or three light meals a day of the simplest combinations of fruits, vegetables, whole-grain cereals and milk. The whole grain cereals preferably should be in the form of dry toast. This diet should include citrus fruits, berries and melons, but white sugar should be rigidly avoided and brown sugars should be used sparingly, and all of the fruits and berries should be used wholly unsweetened.

It is necessary that asthmatics live as nearly as possible out of doors. Not only must their lungs receive an abundance of fresh air, but they must be lightly enough dressed that the entire body is air-bathed regularly. However, it is important that they avoid chilling. Warmth of the body is important to prevent an internal congestion that may light up or aggravate an attack. Clothing should be loose at all points—no constriction even of the extremities being permissible.

Between attacks moderate exercises will be very beneficial. No specific exercises are required, but all active sports that the patient can indulge in or general setting-up exercises that involve deep breathing and the arm and chest muscles should be used. Spinal compresses and massage and spinal manipulations, particularly those in the nature of osteopathic treatments, will be of great benefit in many of these cases.

Many attacks of asthma can be checked or shortened by properly given packs or manipulations. Packs over the front of the chest, over the upper half of the back, or the cross-chest pack over the shoulders and involving the entire rib area, may be used with great relief and benefit. These cross-chest packs should be applied cold and covered thoroughly with dry flannel. Heat by any continuous means to the upper spine or the upper chest will give relief as a rule. The drinking of an abundance of hot water is relaxing and often will help to abort or shorten an attack. Inhalation of steam from a tea-kettle by the use of a suitable funnel may be of help in relieving the spasms.

In many cases it is necessary to avoid cold applications until considerable general improvement has been secured. Many attacks have been produced by cold applied to the chest or upper back, and yet some of the best ultimate results have been obtained where this treatment has been employed. Much depends upon one's individual response to such treatment. If it can be used without starting an attack it can be considered a very beneficial type of treatment. The electric cabinet bath relieves very quickly in many cases because of its sweat-producing, relaxing effect. It should be followed by a tepid shower or sponge, terminated by the cold shower or sponge if possible.

The use of vapors for the specific effect of quieting an attack of asthma should be avoided if possible, also the injection of adrenalin chloride. These remedies for the attacks have no effect upon the underlying conditions and often interfere with the progress of the case under natural treatment. However, there are attacks so severe or patients in such an exhausted condition that such relief is preferable to a continuation of the attack when any natural procedure will not give the desired relief. Adrenalin is an internal secretion

production, hence is not wholly foreign to the body and may be considered much better than the leaves and powders that are used by burning.

As invaluable for their palliative effect as these remedies are in relieving acute attacks, constitutional treatment as outlined is vitally important and must be depended upon if a permanent cure is to be established. In a great many cases all that is required is the proper diet and adequate elimination, with improved skin activity. It is necessary also that the patient should cultivate relaxation, not only physical but mental and emotional. This will help a great deal in preventing attacks, and during an attack. If the patient can secure mental relaxation much will be done towards hastening the termination of the attack.

### BACKACHE AND ITS CAUSES

Backache is a rather common condition and often seems to be the only disturbing symptom in people otherwise in reasonably good health. It is a common symptom of many diseases, as well.

By the term backache usually is meant a lumbar pain, beginning in the region of the first lumbar vertebra and extending downward along the "small of the back." The pain may be in the center of the back, along the spine, or on either one or both sides of the spine; and it may affect any region of the back.

There are a great many causes of backache, but the largest number result from strain, fatigue and lack of balance. Strain may result from unnatural posture while sitting, standing and walking, or from a one-sided occupation. Those who carry weights on one side, such as postmen, or children with their school books usually over one shoulder, may have considerable backache—and may develop definite spinal curva-

ture. Other causes of strain are a poor muscular balance or abnormal abdominal conditions, such as enlarged or prolapsed organs, obesity, etc. Fatigue often results from a constant attitude in such occupations as require stooping, bending or lifting heavy objects. In many cases abnormal muscular balance results from fallen or broken arches of the feet or from the use of poorly fitting shoes. In these cases the pain usually extends upward from the lower extremities to the back.

High heels are very prolific causes of backache. The natural foot is constructed to walk best in a horizontal position, with the heel no higher than the sole of the foot. The muscles are designed to support the body best in this position. When heels of two or more inches in height are worn it is necessary for the muscles of the back to be unnaturally tensed in order to support the trunk in the erect position; also the pelvic bones must tip in an unnatural position, placing stress upon certain muscles and ligaments, and pains or aches will result in some degree.

Backache sometimes becomes so constant or frequent that a patient, with unstable nervous system or neurotic in nature will develop a condition of the mind that allows mental concentration on the back with the resultant pain, in the back continuing, although it may originate from some other source. Such a spine is known as "hysterical spine." Treatment in such cases must be general and directed toward relieving and curing the neurotic tendencies, and the nervous system must be restored to normal balance. However, local treatments will be of value and should include heat by any means, massage, vibration, probably specific spine manipulation, etc.

A more or less similar condition results from physical shock without a definite injury to the spine or with a slight injury that should be quickly corrected. The backache lingers and

the patient becomes neurotic. This condition is called "railroad spine." It requires the same type of treatment as does the hysterical spine.

Backaches not infrequently result from nerve inflammation or neuritis, either of a simple type or as a part of a multiple neuritis resulting from alcoholism, lead-poisoning or diabetes. The alcohol or lead must be removed from the system and the diabetes must be properly treated to correct these back-aches.

There are many backaches resulting from a focus of infection elsewhere. Such infections may be acute or chronic tonsilitis, apical (tooth-root) abscesses, gonorrhea, pneumonia or influenza. The last two are acute conditions and the pain usually is in the early stages. In these disorders there usually are other symptoms pointing to the causative condition. The backache will subside when the infection disappears by proper treatment. It may be necessary to resort to a rigid course of diet, baths, manipulations, water treatments and so on. Infected tooth abscesses must receive the proper dental attention; the backache may or may not need special treatment, but usually this will be necessary also.

Other infections causing backache are tuberculosis and typhoid fever. A deformity frequently results in the case of tuberculosis. This condition requires quiet, rest on a fairly rigid bed and a nourishing diet of natural foods, avoidance of constipation, proper care of the skin by sun, air, friction, and cool sponge baths, plenty of fresh air and sleep. Typhoid fever may produce a rigid tender spine with considerable aching. This usually disappears upon the clearing up of the typhoid fever, but local back treatment may help it to disappear more quickly.

Many backaches are due to relaxation of the joints of the lower spine and hip bones, or to a natural rigidity of the liga-

ments in these regions. There may be a genuine arthritic development in these joints, due to rheumatic or other infections.

Long illness and surgical operations requiring prolonged lying in bed may cause relaxation of the joints of the lower spine and hips. Sleeping on a bed with very relaxed springs, on which one assumes such a posture as in a hammock, may produce similar conditions. Using harder bed springs, taking cool baths and exercises will clear up many of these cases. Strapping may be necessary for a time when the relaxation is extreme. Specific manipulative treatments, osteopathy especially, will be very beneficial in most of these cases.

Backaches often result from prostatic disease in men and from diseases and displacements peculiar to women. The ache in these cases is in the lumbar or sacral region or between the shoulders or in all of these regions. These conditions must be overcome by appropriate treatment to reduce inflammations, congestions, enlargements or malpositions, as the case may be.

Sudden twists and turns may result in backache, especially when the muscles and ligaments supporting the backbone are abnormally relaxed. Hot and cold applications, hot and cold sitz-baths, more or less rest for a time, and sometimes strapping, will take care of these cases.

Kidney disease, pendulous abdomen, and prolapsus of the stomach or other abdominal organs frequently result in backache. Special treatment for the causative condition will be necessary. Diet will prove very important, as well as proper posture, and any other general measures seemingly indicated, together with considerable local treatment. Kidney disorders may require a very strict dietetic and general treatment (see *Kidney Disease*.)

Constipation is a very frequent cause of backache, and this form readily responds to treatment that will correct the constipation. Included in this treatment should be proper diet and exercise, but local treatment to the back may be given to hasten the cure of the constipation as well as to overcome the backache.

Other causes of backache are spinal curvature, often mild degrees of curvature that are not suspected; hysteria and neurasthenia; ulcer of the stomach, liver congestion, gall-stones, hemorrhoids, cystitis or inflammation of the bladder, and lumbago. All of these will require direct and specific treatment for the underlying cause.

From the above it will be seen that the causes of backache are many and common and, while local measures will be of value in all cases, the underlying condition should be discovered if possible, and this condition should receive proper treatment.

*Lumbago* often is a term applied to fit any type of ache or pain occurring in the lumbar region. True lumbago is not a particularly common condition. It is a severe paroxysmal form of muscular rheumatism involving the muscles of the loins and their tendinous attachments. With this condition one may be unable to twist or turn the back or to rise to an erect position after stooping. Even the jar of walking or riding in a motor-car may cause pain. In the treatment of this condition hot-water applications and especially the hot sitz-bath followed by proper massage usually will bring greatest relief. Heat may be applied by an electric pad in order to maintain uniform heat for a considerable length of time. Hot-water bottles may be used satisfactorily in many cases. Usually there should be a proper eliminative diet. Constipation should be corrected; and as a rule manipulation and vibratory treatment should be applied, beginning very gently.

and increasing with successive treatments as the pain subsides.

### BRONCHITIS—ITS RELIEF

Bronchitis is an inflammation of the mucous membrane of the bronchial tube and its branches. It may be acute or chronic; it may involve one side or both; it may affect the larger or only the minor portions of the tube, or it may involve the whole bronchial system.

The most frequent occasions (usually called causes) for bronchitis are colds, improperly treated or neglected, or irritating inhalations of smoke, dust, gas or fumes. Becoming chilled after being heated may result in an attack if there is an injurious degree of toxemia. Certain trades tend to the production of such irritation to cause bronchitis: stone-cutting, milling, carpentering, paper-hanging, etc. Inhalation of tobacco smoke or tobacco dust is one of the most prolific causes. Living in overheated quarters with the air insufficiently moistened is somewhat common in American city dwellings, and such conditions may lead to bronchitis.

*Acute bronchitis* results from an accumulation of toxins in the body, making it necessary for the body to call upon the mucous surfaces of the respiratory tract for additional elimination. Aside from the causes already given, acute bronchitis may accompany other acute diseases.

The symptoms are quite abrupt, the condition itself beginning with a sudden fever, often accompanied by a chill. Fever sometimes, however, is absent. Cough is the most prominent symptom. This may be frequent and hard with no expectoration, especially for the first two or three days. There usually is soreness back of the breast-bone. Gradually the cough becomes somewhat productive, there being a tenacious mucous accumulation which is expelled with considerable

difficulty. Its presence in the bronchial tube causes a wheezing or humming sound upon breathing. The cough may be so frequent and severe as to result in headache, dizziness, nausea and perhaps vomiting.

The cough gradually lessens after a few days and is more productive, the expectorated matter being thick and more or less greenish, a mixture of mucus and pus. The condition frequently causes bronchopneumonia in children and old persons, through extension to the lung tissue, when neglected, improperly treated, or when the toxemia is so extreme that the body needs the increased surface of the lungs for elimination. Within a week these bronchial symptoms usually disappear in mild cases, and within two weeks in the more severe cases, though the trouble may linger on for a month or more. Considerable depends upon the patient's inherent vitality and recuperative powers and upon the strictness with which proper treatment is carried out.

*Chronic bronchitis* may be either chronic from the beginning or may result from frequent or repeated attacks of acute bronchitis. The inhalation of dust or smoke is one of the most frequent causes. Cough and expectoration are the leading symptoms, the cough being quite obstinate, especially in the morning and evening and during the night. It often prevents sufficient sleep for the patient to recover quickly. The cough may cause vomiting. There may or may not be any substance expectorated. What is brought up may be tinged with blood. During the summer the symptoms may subside or disappear entirely, only to return upon the appearance of cold weather.

*Treatment.* In acute cases it is necessary to remove any cause of direct irritation of the bronchial tubes. Usually when properly treated an acute case will subside in a few days. The "fruit fast" is very helpful in these cases and

should continue until the temperature has been normal for twenty-four hours. The daily enema should be given, with plenty of water to drink. Fresh air is very important, but a cold wind over the patient should be avoided. A blanket-pack will help materially in the general efforts of the body toward elimination. Every two or three days the general pack may be substituted for the local pack to the chest. Hot compresses or heat by a therapeutic lamp over the upper chest will be very soothing in case the cough is very distressing. After any hot treatment there should be a cold application for a minute or so, then careful drying and adequate covering. A "sun-bath" over the upper chest by a sun lamp will help greatly in this condition. After the symptoms have subsided, the patient may gradually return to a diet more ample in quantity and consisting of any natural food desired. Of course, the quantities should be only gradually increased. There is no definite curative diet needed after the acute condition has subsided, though the fruit and strict milk diet would be very valuable at this time.

*Chronic bronchitis* makes it necessary to treat the entire body, because the condition is not local, but is due to a systemic toxemia, with the selection of the bronchial mucous membrane for the point of elimination when the other channels of elimination are functioning insufficiently to take care of the encumbrances. In these cases the repeated complete fast or fruit diet will be of great value, continued for from three to eight or ten days depending upon the strength and vitality of the patient and the effects of the fast. The milk diet is a very excellent diet to follow a fast or to use between these repeated fasts. It is especially recommended if the patient is below normal in weight and vitality. If the patient is normal or above normal, the milk diet may be used with benefit, but with a reduction in the amount of the milk.

sufficient to maintain normal weight or permit of a slow loss in weight.

In this chronic condition, steam-baths or other sweat-baths once or twice a week will be very helpful. They should of course be followed by a cold or cool bath and vigorous friction. The hot shower bath, in which the water is allowed to play alternately upon the upper back and the upper chest, terminated with a decidedly cool or cold shower, is an excellent treatment. Cold chest packs covered by dry flannel so that warmth is re-established; local heat to the upper chest followed by cold applications; hot compresses; steam inhalations; massage and spinal manipulation, are all of considerable benefit, and any of these may be used.

The patient should engage in walking, and practice moderate deep breathing as much as possible within reason, if it is necessary to improve the general vitality. Water should be drunk copiously, as a rule. Plenty of bulk must be in the diet for adequate bowel activity, or the enema or special aids, such as agar agar or mineral oil or their emulsions, should be used.

Gradually increasing amounts of general exercise are of great benefit, but it is important that the patient secure plenty of relaxation. Too much exercise or exercise of too strenuous nature is apt to increase the coughing. Natural sun-baths and air-baths should be obtained frequently. It should not be necessary for a person with bronchitis to change climate, though sometimes a warm dry inland climate is most advantageous in cases where there is much expectoration. Where there is a non-productive cough, the sea-shore may be of benefit. But regardless of a change in climate, if one does not live in a way to keep the systemic toxemia down to a minimum there is not likely to be a permanent cure.

The diet to follow generally should consist largely of the most natural foods obtainable—green and root vegetables, cooked and raw, fruits, whole grain cereals, milk in some form and nuts or cottage cheese for the chief protein. Meats should be used very moderately, and all refined sugars and their products should be avoided. Only a very moderate amount of fat, such as cream, butter and olive oil, and of starches should be used, until one becomes able to indulge quite freely in physical activity.

The cough of both acute and chronic bronchitis can as a rule be greatly relieved by teaspoonful doses of equal parts of honey and lemon juice taken every two or three hours.

### CATARRH AND ITS TREATMENT

Catarrh is a general term applied to sub-acute or chronic inflammation of the mucous membrane, its distinguishing feature being the discharge of mucus ranging from a thin watery fluid to an offensive thick mucus.

Most people apply the term catarrh only to the involvements of the nose and throat. However, catarrh may affect any portion of the body wherever there is mucous membrane. Thus there may be catarrh of the stomach and intestines, which is quite common, or of the bladder, and so on. Catarrh is similar to a "cold" in regard to the mucous membrane discharge, but an acute cold rarely is called an acute catarrh. It is such, however.

Here we shall confine ourselves to catarrh of the respiratory tract, because it is catarrh of the nose, throat, and bronchial tubes that is most prevalent. It is disturbing not alone to the one who has it, but to the one who is forced to see and hear its manifestations.

The *symptoms* of catarrh are due to the efforts of membranes to cast out the excess mucus which catarrh causes.

Various as these symptoms are they do not need enumeration here. The *cause* of catarrh is the vital forces working toward the purification of the body. The occasions for catarrh (usually considered the causes) are our numerous wrong habits of living. However, to simplify the subject we will dispense with the distinction and call all factors responsible for the catarrh, the causes.

The chief cause is excessive eating and defective elimination. If the reader will turn to the section on *Toxemia* the various causes of catarrh will be found clearly given. It is chiefly necessary here to point out the most pronounced cause of catarrh—of the toxemic condition that makes the body produce the catarrh. The use of large amounts of starches, such as breadstuffs, pastries, and potatoes, rice, macaroni, etc., sugar and its products, rich desserts, fried foods, pancakes, syrups, and candies are among the chief causes and the chief perpetuators of the underlying toxemia. Combined with this usually is an excessive amount of meat-eating, so that there is both putrefaction and pathological fermentation in the intestinal tract, with absorption of the detrimental by-products of these processes. All of these considered in addition to the absorption of an excessive amount of food elements and there are found many reasons for catarrh.

The catarrhal discharge may be considered as merely congealed impurities passed out of the body for its protection. The "inflammation" usually considered associated with this condition as a rule is insignificant. No attention need be paid to it. There is the burden of toxemia that must be corrected, and when it is corrected there will be no occasion for throwing out the waste products upon the mucous membrane surfaces. The normal eliminative channels will take care of them properly.

A leading disturbing cause of catarrh is an excessive amount

of clothing, and other factors which prevent normal skin action. One seldom finds catarrh among primitive people who wear little or no clothing. Another chief contributing cause is confinement too much of the time within heated houses or working quarters where the air also is super-dried. One finds little or no catarrh among the Eskimos or inhabitants of extreme northern regions. But explorers of these regions, although free from catarrh while in such regions, may develop catarrh within a few days after returning to the habits of "civilized" life. Insufficiency of fresh air during both day and night is almost certain to lead to the need for some sort of catarrh.

Inadequate bathing will have an effect similar to the use of excessive clothing. If the pores of the skin are not properly active the entire functions of the skin will be retarded. Elimination through this channel will be ineffective, and the waste products that should be eliminated through this medium will have to have an outlet through the mucous membrane.

Constipation leads to the development of catarrh through the failure of one of the chief normal means of elimination, thus making it necessary for the mucus to find another outlet.

In a discussion of diet, it must not be considered that starches and sugars alone and the foods previously mentioned are the sole dietetic causes of catarrh. Too much protein or fats in any form will produce or aggravate the condition, as also will an insufficient amount of water taken into the body. Over-fatigue, when frequently repeated, causes such constant lowering of the vital forces that once catarrh has developed it may be some time before the vitality can be restored.

It may be considered that for those who live in cities or in any place where the air is laden with smoke and dust a

slight degree of catarrh is considered by certain persons to be of some benefit, particularly when of the watery type. It will help to carry off a certain amount of foreign elements that otherwise would linger, to cause more or less damage. However, the body usually will be able to take care of these quite satisfactorily if one is entirely free from any catarrhal discharge, so it would be better to be free from this condition.

A condition usually considered as a result of catarrh is involvement of the Eustachian tubes leading to the ears, resulting in catarrhal deafness. The catarrh will not extend to involve these tubes unless the body requires additional surfaces of mucous membrane to keep it reasonably healthy internally. When there is an extension of catarrh from one part to another it can be taken for granted that the underlying causes have continued and intensified, and that the body is merely calling on additional structures for elimination, thus sparing the internal mechanism involvements that will result in serious illness or chronic disease.

Catarrh is usually curable. There are very few diseases more certain of correction than catarrh and yet this condition sometimes lingers on for a discouragingly long time, even under the most satisfactory treatment. One reason for this is that the body takes considerable time to re-establish normal functioning of the natural eliminative organs so that there will be no need for the great demand upon the mucous membrane. Usually it is quite readily eliminated in children and young adults, but is more stubborn in those in middle age and beyond. If there is a fair amount of vitality and will power and there is no disintegration of some of the vital organs or of the mucous membrane, catarrh can be cured in practically every case. The cases that can not be cured usually are in elderly people, but though these may not fully recover they can greatly improve.

*Treatment.* In order to eradicate catarrh it is necessary to re-establish not only elimination through all channels, but normal activity of all the vital organs and processes. Usually a person needs no outside help in order to correct this condition. A great many people lose courage easily, especially when relief is not as rapid as they may have expected. No matter how slow the progress may be, one can be certain that a proper program of living will steadily improve the general health and in time there will be a disappearance of any discharge from the mucous membrane.

The fast for a short time is helpful in these cases, but this is one condition where we do not advocate the protracted fast. It seems that the eliminative functions of the body slow down appreciably during the fast, and since the body has more or less of a "habit" of eliminating through the mucous membrane it will continue this habit while the other eliminative organs decline to function. It is better in catarrh that a fruit diet be employed, to keep up elimination through the normal channels and at the same time to more rapidly alkalinize systemic acids and aid in detoxication. If the weight and general conditions permit, a person may remain on the fruit diet for several weeks with benefit. The citrus fruits are preferable, but any fruit except the sweet fruits may be used to advantage. It is well to confine the diet to a smaller quantity of fruit than is required to provide calories to maintain weight and energy. The equivalent of six or eight oranges a day usually will be enough fruit, but if the weight is dropping rapidly or is not high to begin with and if the energy is below normal, up to twice this amount may be taken without detriment. It is very important that a considerable quantity of water be taken, also that the bowels be emptied daily. If they do not function naturally on the fruit, an enema of from one to two quarts

of tepid water should be used, and repeated immediately if the results are not satisfactory.

The regular diet should be returned to very gradually, and should consist of fruits of all kinds, salad and cooked green vegetables, with slowly increasing amounts of the root vegetables and, if considerable improvement is noted, very limited amounts of whole grain cereals and milk in some form. Green vegetables and juicy fruits should form the bulk of the diet. Some meals should be exclusively of one or the other.

The question also arises as to the value of the milk diet in catarrh. If a person is much below normal in weight when beginning treatment or after a fast or fruit diet, the milk diet may be used to restore weight, strength and energy to an appreciable degree. A certain amount of mucus is thought by some to be produced by the milk diet, but this diet will never aggravate catarrh. However, it is often as well to continue on a fruit diet for some time, later combining fruit with milk, rather than the strict milk diet. We even leave out milk entirely or largely in many cases. The foods mentioned early in this section as being detrimental should be avoided no matter how ample a diet is provided later on.

It is very important that the body be aided in burning up its waste products, and one of the best means of doing this is through exercise. Another is through restoration of normal skin activity.

There should be daily exercise, preferably sufficiently prolonged or strenuous as to result in increased perspiration. It should be out of doors, at least in part. Long walks are very helpful, especially when there is deep breathing.

To improve the skin activity the cold bath is of great value. The reaction required from this bath is beneficial not only to the skin but to the circulation, to the blood itself,

and to every cell in the body. It helps the body to burn up considerable waste material to provide the warmth necessary upon establishment of reaction. Where the vitality is low a moderately cool bath may be used, or it may be necessary to use the hot or warm and cold bath; but some bath below body temperature should be taken practically every day.

As little clothing as possible to maintain warmth should be worn, and as little bed-clothing as possible. Bundling up the throat and chest is not a good practice. It is necessary that the air reach the surface of the body at all times. The nude sun-bath should be taken at every opportunity. One should get over the practice of coddling. Friction baths, especially when combined with the air-bath and sunbath, will greatly stimulate the circulation and elimination. One must secure plenty of relaxation and sleep in order that the nerve-tone may be restored to or maintained at normal.

One should bear in mind that when ridding the body of catarrh one is making it more immune to every other disease. Long ago Seneca said, "Man does not die: he kills himself." Catarrh or the condition underlying catarrh is one of the things that helps mightily in this almost universal suicide. It leads to other disease manifestations; and it often shortens life. To get rid of catarrh the patient must put into practice the necessary procedures. Any knowledge is worthless if it is not applied. In the case of catarrh proper knowledge must be applied and continuously applied until the body habits have been corrected and until proper living becomes second nature to the individual.

### COLDS AND COUGHS

The "common cold" is one of the most frequent of all causes of loss in wages and salary, not to mention joy of life. There are very few people who have not had numerous

colds, and comparatively few who escape at least one cold during the winter or colder months. It would be no exaggeration to say that scores of people every year literally cough themselves into their graves. A cough is one of the first and most prominent symptoms of a cold, and a cold neglected or wrongly treated is one of the first symptoms that a coffin soon will be needed. Note that I say, "a cold neglected or wrongly treated," for neither a cough nor a cold will necessarily kill unless wrongly treated or allowed to develop into a more serious malady.

The mystery of a cold has been inquired into and debated for ages. The term "cold" is so used because we always have associated the ailment with cold weather and low degrees of temperature. When we get away from this idea we shall have a better opportunity to discover the proper way to prevent and relieve colds.

Frequently warnings are sent out by Federal medical officials and by State and local medical officials in regard to colds, and influenza, and much wholesome advice is disseminated.

Perhaps no one class of people eat more heartily than the farmers, and they also wear heavy woolens, as a rule. Of course much of their time is spent out of doors and they do require somewhat heavier clothing and heavier foods than do many others. But in addition to these, it is an unusual thing to find the farmer's bedroom windows open in the winter time. Often the windows are closed tightly and calked so that there will be no drafts. All these factors combined make many farmers especially subject to respiratory diseases, such as colds, bronchitis and pneumonia—inspite of the fact that they are out of doors much during the daytime. The heavy clothing and the heavy diet no doubt are important factors in creating this susceptibility of the farmer.

For some years the theory of bacterial origin of colds has held supremacy in the medical mind. Colds are considered contagious. Without doubt there are many bacteria in the discharges of a patient with a cold; and many of these may reach the respiratory tract of someone who may subsequently develop a cold. But over and over again it has been proven that these germs are not the fundamental cause of colds. If they were, everyone in any congregation, audience or gathering of any kind would soon develop colds if there were only a few coughing and sneezing members. The physician on his rounds from cold-patient to cold-patient would develop colds frequently if germs were the chief cause.

Of course one may argue that it is only those susceptible who develop colds from "exposure" to colds—to the bacteria of colds. That is granted—and it is just why many people contract colds: their bodies harbor encumbrances that provide a favorable culture medium for the propagation of the germs. A clean body and clean blood establish more or less of a natural immunity. A cold is really an effort of Nature to eliminate accumulated poisons from the system.

What are colds, and how do they develop?

A cold is considered as an acute inflammation of the mucous membrane of the upper air passages, sometimes involving the eyes and the throat, and usually is associated with general symptoms. The "inflammation," however, is merely a congestion due to the need for an extra amount of blood in the parts to carry on the extremely active elimination. Of course there is some minor inflammatory process, but this in itself can be ignored in the main. The thing to consider is the underlying condition.

Usually when nature decrees a cold, the entire vital force is more actively aroused than when a catarrh results from the same causes. Yet a cold may be considered as an acute

catarrh, elimination taking place much more rapidly in this acute condition than in the case of catarrh, where the body, for some reason of encumbrance or repression or depletion, is prevented from making strenuous acute efforts toward elimination.

Among the many immediate and contributing causes of colds, I am convinced that the ingestion of more food than the body can readily make use of is foremost. Most of us seem to think that eating is for the chief purpose of providing palate pleasure and to *prevent* hunger. Food is meant to supply the body with working materials, and to *relieve* hunger. Many persons—most of us, in fact—have never experienced a genuine hunger since childhood. They see to it that they don't, by answering every call to meals, whether they need a bite or not. Continued feeding without genuine hunger appetite depresses the digestive functions, and as a result of the ensuing indigestion there are fermentation and putrefaction in the food canal, with absorption of material unneeded by the tissues from the blood- and lymphatic-vessels. The already overburdened eliminative system is further embarrassed and these unnatural substances are backed up into and deposited in every organ and cell of the body. The body develops an acute cold as a means of effecting a house-cleaning.

Man naturally was an unclothed animal as are other living creatures. But civilization has led us to a pride in clothing, and to overdressing. An excessive amount of clothing renders the skin more or less lifeless, for the pores and cells of the skin cannot function much better than a man's breathing apparatus could if the head were buried in a feather pillow. The clothing worn makes it unnecessary for the skin to perform its great function of heat-regulation. Instead of vigorous circulation in the skin, this organ becomes pale, anemic,

"lifeless," and the blood gathers internally to produce congestion within.

The skin is further reduced in serviceability by inordinate use of hot baths, or by neglect of the need for cleanliness. Hot baths repeated frequently or continued too long lessen responsiveness of every element forming the skin—blood-vessels, nerve-endings, pores, sweat-glands, and so on. They also produce an anemia, and a coincident lowering of general vitality.

One does not need a recital of any additional causes of colds. The above are the leading ones: systemic toxemia or filth encumbrance, nerve-endings and capillaries in the skin anesthetized or deadened and incapable of normal reaction, and a resulting congestion of the mucous membrane of the respiratory and intestinal tracts with or without some exposure or other usually considered exciting cause.

Under normal conditions the material eliminated from the mucous membrane during a cold would be eliminated from the body through the normal eliminating channels—the lungs, bowels, kidneys and skin. It is when and only when these channels are incapable of keeping the elimination up with formation and accumulation of waste products that the body must call upon the mucous membrane to assist. A cold develops. It is curative in nature; it is beneficial; and it is the very best the body can do under the circumstances. The body soon would be much worse off if the cold did not develop, for there would be internal derangements. It is the vital force within the body that causes the cold to take place, and the symptoms of the cold are the local phenomena of vital activity.

Too many people resort to fever-reducing drugs and chemical laxatives, for the eradication of a cold. Their aim, unconscious though it may be, is to suppress the cold symptoms

—but this suppression does not eliminate the cause. So long as the cause remains there will be colds recurring, or some alterations within vital organs and cells. A cold suppressed means vitality suppressed, unwanted waste products retained, and the drug and its after-effects added to the burden. All this cannot but put the body in a worse condition than it was during the cold or before the cold developed. This explains the development of complications, the "settling" of colds in the kidneys or lungs or elsewhere, and consequences following physical house-cleaning and the body's partial adjustment to the added adverse conditions. During active colds a body is perfectly safe, provided it is allowed to function in the direction it is taking, and in fact aided along in the same direction.

Colds being so prevalent and so universal, it is hardly necessary to consider minor symptoms. These are well known to practically everyone. What is not known, however, by the majority of people is that when a cold lingers on unduly long through one's failure to aid the body in its efforts or when it "settles" in some part of the body, the cause of the cold has been aggravated or intensified and the body has been prevented from performing its eliminative functions with effectiveness.

A cold sometimes can be aborted by increasing the elimination through all channels at the very onset of the first symptoms. The best way to do this is by withdrawing all food except perhaps unsweetened citrus fruit juices, supplying an abundance of fresh water for drinking, securing a good perspiration by a hot bath for fifteen or twenty minutes and then frictioning the skin with a cold wet towel, cleansing the bowels with a fairly full moderately hot enema, providing an abundance of fresh air for the necessary supply of waste-consuming oxygen, and then securing a good night's sleep.

Even after a cold has gotten a good start these procedures should be employed. The food should be withheld until one day after the symptoms of the cold have disappeared, whether this be one day or a full week or even more. There is no appetite anyway, and there will be little if any digestion, food being an added encumbrance.

If there is general weariness and especially if there is fever, the patient may go to bed for a few days—as long as the fever continues; but usually where the temperature is normal it is better to be up and around.

The old belief in “feeding a cold and starving a fever” was born through misunderstanding. Whoever first said this was possibly a philosopher, and may have meant that if one does stuff a cold there soon will be a fever that will require starving (fasting) to relieve. Both conditions are due to the same toxemic cause, and are merely different manifestations of the vital activity in the process of cure.

When there is no fever, exercise is a very excellent means of hastening the restoration of normal conditions. One may take as vigorous exercise as general and organic conditions will permit, and preferably continue until a vigorous perspiration results. The sweat, however, may be produced in one of several other ways: an electric-light cabinet, steam-cabinet, vapor-cabinet, or hot dry-air cabinet; a hot-blanket pack; a hot tub bath; or by sitting over a cane-bottomed chair under which is a pan of steaming water, the body except for the head being covered with blankets, tent-fashion. Any sweat-bath should be obtained in an abundance of fresh air, and the treatment should be terminated by a short hot rinse and then a cold shower or other cold bath—tempered to suit one's reactive powers.

As a general procedure, there must be a bath below body temperature after any sweat-bath or hot bath without

sweating, but reaction to warmth must be assured. Complete drying, then covering up well and resting or sleeping is the best termination.

A very excellent relief for the cough frequently associated with a cold is the sipping of hot water containing the juice of one lemon and a little honey; or, every hour or so taking a teaspoonful of a mixture of equal parts of honey and lemon juice. A hot compress over the front of the throat, or heat by means of a heat lamp will be excellent, especially if followed by a cold throat pack, to be kept on for several hours. If other means fail, one may inhale steam (from an open vessel or a suitably equipped kettle), containing a few drops of tincture of benzoin, with or without a few drops of eucalyptus oil. Licorice sometimes is very soothing to the larynx and eases conditions causing a cough. It is better that one take something of this sort than the more powerful cough remedies; but it is advisable to control the cough if it is wearing the patient out and if it interferes with sleep, and particularly if it is unproductive (if it brings up no mucus).

One should keep in such physical condition, muscularly, nervously, chemically and otherwise, that one is immune to colds. It can be done. But if one develops colds, nothing serious can well happen if the treatment outlined above is instituted at the onset. One need fear no complications and no harmful after-effects. Avoid suppressive treatments, if you would have the body benefited by the cold instead of left in a worse condition—by the treatment, however, not by the cold or the underlying conditions giving rise to the cold.

If one does not keep in constant condition to escape colds, then one should begin training many weeks before the usual "cold" season, in order to prevent the cold—not later than early winter for the usual winter colds, and preferably not later than autumn.

If one will follow the advice given in the early chapters of this book, regarding eating, eliminating, exercising, bathing and every other factor concerned with one's daily life one need have little fear of "catching" a cold. In short, one should eat no more than enough to support the body's needs and should have meals well balanced, containing enough foods supplying minerals, vitamins and bulk; one should use a minimum of starches and sugars—yet as much as needed for energy. Keep up normal elimination. Secure as frequent sun- and air-baths as possible. Wear as little clothing as possible to maintain warmth, but enough to prevent being chilly. Don't start wearing heavy woolens as soon as the first cool breeze of fall blows around the corner. Wear summer-weight clothing in the winter when inside in super-heated homes and offices, and protect against outdoor cold by over-wraps and overcoats. Exercise daily, enough to speed up heart action, circulation and breathing. Follow each exercise period with a cool or warm and cool (or cold) bath and good friction. Spend as much time out of doors as possible. Secure ample rest, relaxation and sleep. Drink at least six glasses of water daily, and at least one quart of milk.

Those who are toxemic to begin with may tend to develop colds on trying the above plan. But it is because they *do* need it. Continuing the program will soon eradicate the cause of the cold, and the symptoms will make their disappearance. The more nearly natural the environment of the body the better will its organs function, and the sooner will disease belong in the past.

There are coughs not humanly resulting from colds, of course, but the treatment suggested above for the cough of colds usually will relieve any other cough. The cough of tuberculosis and heart disease may resist any treatment that does not directly benefit the lung or heart condition.

One of the most persistent and exasperating of all coughs is that following influenza or a cold and aggravated by inhaling cigarette or other tobacco smoke. Among other cough causes may be mentioned acute and chronic bronchitis, bronchial catarrh, enlarged bronchial glands, laryngitis of different kinds, pleurisy, stomach irritation, nervousness, hysteria, male urethral stricture or irritation, etc. But unless there is some serious organic condition underlying the cough, in all these coughs very similar conditions exist within the larynx, which may be called a "cough box." A treatment that is effective in one case will be apt to be effective in another.

A constant, harsh cough may lead to rupture, prolapse of some internal organ, reopening of recent operation scars, tearing loose of abdominal adhesions with considerable internal damage, rupture of a blood-vessel, dilatation or rupture of small air-spaces of the lungs, or severe aggravation of abnormal heart conditions. For this reason it is well to check a severe dry cough that does not serve the purpose of expelling injurious secretions or excretions from the throat, bronchi or lungs.

If you are a smoker it is well to begin treatment by discontinuing smoking at once, for you will come to that or suffer through a long period of distress—and of untold vexation to close neighbors. For your own pleasure you may want to compromise, but for the sake of others forego your own pleasure, disturbing and unsatisfactory at best.

You may feel that *your* cough doesn't happen to be the kind that is benefited by a fast or reduced diet, or at least by a decidedly reduced diet. But if you want quick results in checking that cough try the absolute fast or a diet of only a few oranges daily. Or pineapple juice, in "doses" of two or three ounces every two or three hours (or even every hour or so), frequently is very satisfactory. Drink freely of water

—the more the better. Other factors of treatment were given for the cough of colds.

But additional measures of value in many cases are hot foot-baths and hot lemonade just before retiring, which will help one to sleep without severe coughing. Slippery-elm bark or lozenges of slippery-elm may be chewed with considerable benefit. This can scarcely be called a medicine.

Spinal manipulative treatment frequently is necessary or at least advisable, as in some cases there are definite contractions of deep spinal muscles and ligaments, and these treatments and the hot or hot and cold applications to the spinal region will relieve these contractions. One may try by force of will to suppress a dry and unproductive cough, but this sometimes is quite difficult, sometimes impossible.

But the treatment that often markedly relieves many a stubborn cough is plain, ordinary vaseline—petroleum jelly. Some people have learned to take it as easily as they take butter, and hasten to the vaseline tube or jar at the slightest suggestion of a cough. It would be better if they avoided the cause of the cough, but the purpose of this short chapter is to help get rid of a cough after it has developed—as well as how to avoid it. The tip end of a small spoon is filled with vaseline and this amount taken (from the back of the tongue) two or three times a day, and somewhat oftener if necessary. There is no effect upon the digestive system other than a slight laxative effect, which is not undesirable—and it seems to naturally lubricate the tract, relieving the irritation and dissipating the cough.

The cough resulting from urethral stricture or irritation may require the passage of a cold metal sound by a physician. The dilation of the urethral canal often will ease up, reflexly, the condition in the larynx responsible for the cough. But sometimes this cough will be relieved by the hot shallow

sitz-bath—sitting in six inches or so of hot water, knees drawn up so that just the perineum and part of the hips and the feet are in the water. This may continue for from ten to thirty minutes, keeping the water hot by frequently adding additional water after allowing some to escape. General measures for improving the health of the body as a whole, and local throat treatments also should be employed in this condition. Such coughs may not respond to the vaseline treatment, but it is worth a trial. In fact, whatever the cause, any natural or drugless local measure suitable to the general physical condition may be employed, if seemingly necessary. The productive cough is beneficial, but the unproductive cough is a nuisance, to everyone. But even the productive cough should be banished as soon as possible.

### CONSTIPATION AND ITS RELIEF

By constipation is meant a condition in which there are infrequent and irregular movements of the bowels. But the cause and degree of constipation differ to such an extent in different cases that sometimes it is necessary to observe other signs connected with the trouble.

The entire process of nutrition embraces not only digestion and assimilation of food but also the excretions of the end-products of metabolism and the elimination of tissue waste. There are but two channels by which building material may enter the body, the esophagus for food and the trachea for air; there are four by which the excess material as well as waste substances are ejected—the lungs, skin, kidneys and bowels. Nature puts twice the stress upon the outgo that she places upon the intake.

Food itself in proper quantities will never hurt us, but waste left in the body will poison us. Therefore, it is as important to consider efficient elimination of substances which

are of no further use as it is to consider the purity and wholesomeness of the foods and air that enter the body, important as these are.

In *acute constipation*, there usually is some other acute disease, especially those accompanied by fever. Sometimes there is intestinal obstruction or a more or less paralysis resulting from the use of drugs inhibiting intestinal secretions. Often there has been merely an extra consumption of constipating food, or cessation of exercise when one has been accustomed to exercise.

Acute constipation usually requires correction of the causative disease or condition. All laxative drugs should be discontinued and the bowels cleansed by the use of tepid enemas. Exercise should be continued if there are no harmful results. The diet should be modified so that constipating foods are avoided and laxative foods or foods with bulk substituted. Salad and green vegetables, fruits and whole-grain products are some of these foods. The diet may be somewhat broader than these suggested, but these should be the predominating foods.

*Chronic constipation.* This is the most common condition. Thousands of people are and for years have been constipated. Some of the more important causes of this condition are an inactive life, conditions that lower the nerve and muscular tone and the circulation, such as neurasthenia, anemia, drug habits, resort to drug laxatives, neglect of nature's calls, excessive eating, deficiency of foods with bulk, improper mastication, and wrong combinations of food.

Prolapsus of the abdominal organs, spinal abnormalities that lower bowel tone or cause spastic conditions of the colon and rectum, backward displacement of the uterus, enlarged prostate, are some of the mechanical causes of constipation. Adhesions, pressure by tumors and certain other conditions

that may require surgical interference also may cause bowel stasis.

Sometimes there has been an excessive consumption of rough foods. Some people, to correct a simple constipation that would have responded readily to slight changes in the diet or general mode of living, have taken excessive amounts of bran or of raw salad vegetables, to normalize the bowels. Temporarily they have secured relief only to find themselves more obstinately constipated through having exhausted the responses of the nerves of the rectum, possibly the entire colon, and through having weakened the muscles of the intestines.

*Symptoms.* Practically everyone knows the meaning of constipation when the condition itself or the name applied to it is encountered. But a great many people are constipated while being unaware of the fact. If a man or woman eats three meals a day and has one bowel elimination daily that person usually is constipated. Many persons have one bowel movement a day or every second day and give it no thought. They may have from three to six or eight meals in the bowels, whereas they should have at most three meals in the bowels by having an elimination for every meal consumed. Naturally, if a person is eating sparingly there may be inadequate stimulation of the rectal nerves to cause an elimination after each meal. With a very limited diet one may safely have one elimination a day even when eating three times daily, provided there are no flesh foods to undergo putrefaction, and only a minimum of starches to undergo fermentation.

In long-continued constipation there is a sallow and pasty skin or a blotchy, pimply skin. The tongue and breath are foul, urine is dark colored and of strong odor. Headaches often develop, but many people are extremely constipated without ever having headache. There often is gas in the

bowels, perhaps rumbling and being expelled, or merely causing distention. If there is considerable gas, there may be more rapid heart-action and breathing than normal. The energy is low, ambition is reduced, there are sleepiness and mental depression, mental concentration becomes difficult or impossible.

*Treatment.* Practically all cases of constipation can be corrected. Naturally, if there is some obstruction of a mechanical nature, this may need correction by some means other than natural treatment. These cases are comparatively few. One of the best means of improving bowel activity is by resting the bowels and permitting them to recover their normal tone. To provide this rest nothing should be permitted to enter them. This calls for the fast or the fruit juice diet. If fruit juices are taken they are absorbed and no residue reaches the bowels. It is permissible to thoroughly cleanse the colon at the beginning of the fast by a high colonic irrigation or by a series of enemas. Once the bowels are cleansed by any of these methods and no food given by mouth the bowels begin to rest. This rest may continue for from three to ten days, depending upon general conditions. Nothing should be done to aid the bowels to move during this time after they have been cleansed as suggested.

Another plan is the same diet, but instead of cleansing the bowels thoroughly, use enemas consisting of from one to two quarts of tepid water daily during the restricted diet.

After the bowels have received such a rest they should function normally, but of course their strength and vigor must be maintained, possibly considerably improved. The milk diet is a very excellent diet to restore nerve-tone and muscle-tone, to improve the circulation and secretions of the intestinal tract.

The milk diet is constipating to many of us, but instead

of using some laxative food with the milk it usually is better to inject into the lower bowel a pint to a quart of water at or slightly below body temperature, daily during the milk diet. When the milk diet is used, the "full quantity" should be taken—not less than five quarts for women or six quarts for men. The juice of one or two oranges or a corresponding amount of grapefruit juice should be taken at the beginning of the day in every case.

If for any reason the milk diet is not desired or cannot be taken, a solid food diet may be used effectively. One such diet is as follows:

For breakfast, have a dry cereal or a well-cooked whole grain cereal, a glass or two of milk and any sweet fruit preferred. It is well to have an acid fruit from fifteen to thirty minutes before this breakfast.

For the second meal, if three meals are used, one or two green vegetables should be taken cooked, a fairly large salad, a slice or two of whole wheat bread or a sweet fruit, and a glass of buttermilk or whipped clabbered milk, which has been called sumik.

For the third meal, a salad, one or more cooked green vegetables, any protein *or* starch—one or the other—and a stewed fruit dessert. A slice or two of toasted whole wheat bread with a little butter may be used, and milk or buttermilk may be used if starch has been taken. A fruit juice drink may be taken when the meal includes meat.

It is very important that there be general exercises and particularly exercises involving the abdominal and waist regions directly. Any active sport may be indulged in unless there is prolapsus of any of the abdominal organs. In such a case it would be better to take exercises head downward on an inclined support for a sufficient length of time to restore the organs to normal position.

Reclining exercises on the bed or floor should be used in most cases. While walking around, while sitting and reclining, one should practice frequently drawing the abdomen in and up as far as possible without strain. This can be done without interfering in the least with breathing, hence it can be done while walking along or while seated and talking with others. And it can be done without anyone being conscious of the procedure. Care must be taken not to hold the abdomen in too tightly for too long a time. The idea is to develop in the body the habit of holding the abdomen somewhat in so that there will be less inclination for the organs to sag out of their normal position. Walking around the room on the hands and feet is a form of exercise helpful in most cases.

One factor of treatment of very great value in many cases is rectal dilation. Hard-rubber rectal dilators can be obtained in practically every drug store with full directions for use. When one of these of suitable size is inserted after lubrication into the rectum, it has a very good effect through the stretching of the rectal sphincter, upon the local circulation, and reflexly upon the entire colon through direct influence upon the sympathetic nerve centers.

One must obtain sufficient rest and sleep to permit of recovery or maintenance of normal nerve-tone. The bowels can not function well or continue to function well if the nerve-tone is allowed to reduce to any appreciable extent.

Another treatment of benefit is cold abdominal packs or the cold or hot and cold sitz-bath. The cold packs may be used daily for twenty to thirty minutes for a number of weeks with benefit. The sitz-bath may be used daily or every second day. If a cold sitz alone is used, it may continue for from one-half minute to three minutes, depending upon the water temperature and reactive powers. If alternate hot and

cold sitz-baths are used the hot should be taken for three minutes and the cold for thirty to sixty seconds, and both may be repeated if desired.

Spinal manipulations sometimes are necessary, and in many cases will be of benefit. Unless the nerves leading from the spine to the intestinal tract are capable of carrying normal impulses, natural bowel activity is impossible. There may be conditions of muscles and ligaments or bones of the spinal column that need adjustment before constipation will be wholly corrected.

Abdominal massage also may be employed with benefit if there is no inflammatory or contra-indicating condition in the abdomen. One may double up the fist and roll it in a somewhat circular motion upward from the lower right side of the abdomen to the ribs of that side, then across the abdomen to a similar point on the left side, then down to the lower left side. One may use a croquet ball or other hard ball of similar size to roll over the abdomen in the directions indicated. Vibration by a mechanical vibrator may be employed similarly. These will not be corrective of underlying conditions except to have a favorable effect upon muscle-tone. Their chief value is in aiding the bowels to carry on their waste content, without improving the response necessary for defecation.

When we learn what to eat for health, and to provide water, rest and exercise for the body we will have no more constipation. Until then, we may need our cures. Select the least harmful cure and stay with it until the desired results are obtained. Remember, however, that laxatives, cathartics and purgatives can not cure. Every time one resorts to their use the temporary relief is followed by an aggravation of the constipation and positive cure is that much farther removed. Even the internal bath or enema can not be con-

sidered natural. Still, although without marked harm in most instances, this treatment should not be used habitually.

## DIABETES, ITS CAUSES AND EFFECTS

As yet there has been no universally accepted theory as to the cause and cure of diabetes. It has been regarded and still by different authorities is regarded as due to a disease of the pancreas, of the muscles, of the nervous system, of the kidneys. Sometimes it has been considered as a metabolic and nutritional disturbance, and still again as a form of auto-toxemia and acidosis.

The body in which diabetes develops generally is considered to have been supplied with an over-abundance of sugar and starch foods. One reason for this belief, of course, is the appearance, in those affected by the disease, of an abnormal amount of sugar in the blood and the excretion of sugar in the urine, where it does not belong. It is true that the diabetic is unable to deal with sugars and other carbohydrate foods satisfactorily. But when the body has been overfed on all classes of food, it cannot be expected to assimilate properly any class.

It is the disturbance of metabolic processes by this over-taxation that accounts for the body's comparatively ready response to a program of diet and hygiene which allows recovery of a normal metabolic balance. Many cases of this disease, some of which have been "given up" under orthodox treatment, have been greatly benefited or corrected entirely through the fast, the fruit diet, the milk diet, and suitable exercise.

*Symptoms.* The first characteristic of diabetes is a presence of sugar in the urine, together with a large amount of urine. Additional symptoms are great thirst, voracious appetite, gradual and often rapid loss in weight, weakness, dry and harsh

skin, and often inability to sleep. Boils frequently develop, also cataracts, and there may be gangrene of the extremities, also, in some cases, a tendency to coma.

This is a disease that often is well-established before it is suspected. Its onset is gradual as a rule, but may develop abruptly after some severe shock. It may appear at any age, but the usual age is from thirty to sixty. When it appears in early life the outlook is far from bright. Jewish peoples are particularly susceptible to this disease.

This is one of the serious diseases steadily increasing in prevalence. It ranks with heart disease, kidney disease and cancer as degenerative diseases that are steadily increasing in frequency.

*Treatment.* Diabetes is a condition in which there can be no great amount of compromise; a rigid treatment must be followed. The majority of people feel that diet is the only important factor in the treatment (except insulin), but diet is only one-half of the treatment. It is necessary that food be utilized, that sugar taken in as such or formed from starch foods be oxidized, and exercise is the only way in which this can be assured in a physiological manner.

The absolute fast rarely is given in a case of diabetes because of the tendency to the development of acetone acidosis, which is a serious condition leading to coma and death unless prompt and correct treatment is given. Instead, a fruit diet usually is employed. Any of the citrus fruits may be used, a diet of six to eight oranges a day or two or three grapefruit being ideal. This gives an allotment of fruit-sugar by which the acetone acidosis will be prevented, while at the same time this sugar is so natural that it is oxidized perfectly.

Citrus fruit will not increase the diabetic condition, or the amount of sugar in the blood or urine, contrary to the gen-

eral belief. Such a diet may be continued as long as the general condition will permit.

Afterward, diet should include an abundance of fruits and green vegetables with a minimum of starch foods of any kind, but with small amounts of milk or other protein, such as cottage cheese. Instead of this diet the strict milk diet may be employed with benefit, but usually these cases do better on skimmed milk.

I recall one case of diabetes that was in a serious condition on beginning the treatment who went several days on fruit and then began the strict milk diet. The patient was seen thirteen and a half years later, and heard from three years still later, and throughout all of these years he had remained strictly on the milk diet with the addition of two oranges a day. He was using practically throughout this time four quarts of milk daily. At the age of sixty-five, at a height of six feet, he weighed 175 pounds and was apparently in sound health. He felt well in every way, performing his daily duties without any sick leaves, and had absolutely no appearance of sugar in the urine or excess sugar in the blood at any time upon examination. Incidentally, he remarked that if he lived to be a hundred years old he would never change from this diet.

One advantage with the milk diet is that it is not necessary to measure the foods for carbohydrates. There is practically a definite amount of carbohydrate (seven per cent.) in cow's milk whatever the pasturage or the food received by the milch animals.

As insulin is in such common use today in the treatment of diabetes by medical men, it should be made clear that this substance, although it has great value in reducing the percentage of blood sugar, is not in any way a cure for the disease. As soon as its use is discontinued the blood sugar

will again begin to increase in quantity. When using insulin, however, the diet need not be so carefully watched. But it is not to be considered as a cure for the disease.

As for exercise, nothing is better than walking. During the exercise there should be deep breathing. If one can indulge in golf or moderate tennis or swimming or rowing, or any other such open-air sport activities, or in tramping the hills while hunting, or in taking cross-country walks, perhaps with the camera to lend interest, no special types of exercise need be taken.

However, even greater benefit will result from general exercises involving every muscle group in the body. There must be enough exercise to increase heart and lung activity so that muscle-sugar will be burned up and so that there will be no appreciable amount of sugar stored within the body. Naturally there must be plenty of relaxation, but the tendency to lie around and coddle the disease may lead to succumbing quickly from diabetes.

One should accustom oneself also to cold baths or to as cold baths as possible for prompt reaction. The body utilizes fuel foods much more rapidly where reaction from cold baths is necessary. Naturally, one must take into consideration any possible disease of the heart or arteries or kidneys, but where diabetes is uncomplicated or when there is no other condition serious enough to contra-indicate activity and cold baths, these should form a part of the diabetic's program for long life.

### **GALL-BLADDER DISEASE AND GALLSTONES**

A great many people have more or less trouble resulting from inflammation of the gall-bladder. This is called technically, cholecystitis. It may be acute or chronic. But as a

rule the medical title given is applied mainly to acute conditions.

The gall-bladder is a pear-shaped organ attached to the under surface of the liver under the edge of the right lower ribs, about half way between the center of the body and the center of the right side line, that is, the line immediately below the arm-pit center. When there is trouble with this condition there frequently is an uncomfortable feeling at the point mentioned, though in many cases the location of the discomfort is indefinite and it is impossible to come to a quick decision as to the location of any inflammatory pains. Often gall-bladder inflammation and appendicitis are mistaken one for the other.

The purpose of the gall-bladder is to receive bile (gall) from the liver, where it will be ready for passage into the intestinal tract in considerable quantities when needed in the process of digestion. Where the diet is alkaline and where sufficient fluid is taken into the body, the bile usually will be liquid enough to pass into the gall-bladder and out of it again through the small ducts or tubes leading into and away from this sack. But very often the diet and mode of living in general are such that the bile becomes concentrated and becomes irritating. This produces in time an inflammation of the lining wall or membrane of the gall-bladder, and here we have cholecystitis. If the bile becomes concentrated and yet not so decidedly concentrated that it can pass out of the gall-bladder, it may cause dilatation of the gall ducts and irritation and inflammation. Gallstones are due to a concentration of bile or to a precipitation of some of the elements forming bile, but a great deal of irritation and trouble often results before gallstones develop—and many people never would develop gallstones, and yet have gall-bladder trouble.

In addition to the local or more or less general abdominal discomfort often present with gallstones in gall bladder disease, there sometimes are various symptoms of indigestion, including what is called biliousness. In some instances there is decided constipation, and the color of the stools is sometimes that of clay and their odor is foul. Sometimes there develops some degree of jaundice as a result of re-absorption of some of the bile-pigments. The pain may be so severe that operation seemingly is required.

*Treatment.*.. Operation rarely will be required in gall-bladder trouble if natural treatment is applied in time. It is necessary in these cases that the bile be thinned and that it be rendered non-irritating. There is nothing better as the initial part of the treatment than a fruit diet, with copious quantities of water, preferably hot water. Early in the morning may be drunk a quart of hot water containing the juice of one lemon and one-half teaspoonful of salt. This should be as hot as possible and yet drunk rather than sipped. It should be taken within ten minutes if possible. Nothing should be taken until at least three hours later, when grape-fruit or orange juice may be taken. Half a dozen grape-fruits or a dozen oranges or half these numbers of each may be taken during the day, with two to four quarts of water—but not necessarily together. This hot water mixture is very effective in cleansing the intestines, the liver, the kidneys, the blood and the skin. It also may have a laxative effect. This is a condition in which it is permissible to use an effective dose of some such laxative as Pluto water or citrate of magnesia at the beginning of the fruit diet, but not later. The fruit diet (or if preferred the absolute fast with an abundance of water) may continue for from five to ten or fifteen days, depending upon the patient's condition and the effects of the fast.

The later diet may be large quantities of fruits and vegetables and sweet milk or any form of sour milk. But an excellent diet is the buttermilk diet or a diet of whipped clabbered, skimmed milk. Not infrequently this sour-milk diet will "stir up" the liver to the point where it will drain off all possible bile and may result in diarrhea or more or less copious vomiting. This will have a beneficial effect in cleaning out both the liver and the gall-bladder, and the cure is more likely to be rapid and complete.

Heat applied by any convenient means over the liver area, or concentrated over an eight- to twelve-inch circle centered at the gall-bladder area, will prove very helpful if continued for an hour at a time and followed by decidedly cold applications for five minutes or so, the treatment to be repeated four or five times a day. The abdominal girdle may be applied to be worn at night, and again in the morning to be worn for four or five hours. This girdle consists of linen or old sheeting eight to ten inches wide and long enough to encircle the body twice, wrung from cold water and applied around the trunk in the liver area. Dry flannel three or four inches wider, is applied around this, two or three layers, and pinned securely. When this is removed the area covered should be bathed with cold water and well dried. Heat, or heat alternating with cold, or spinal manipulation, or heat and spinal manipulation involving the spinal area from between the shoulders to "the small of the back" often will help greatly to re-awaken the liver and its functions. Massage may be given instead of any specific manipulations.

The later diet for regular use should consist of natural foods, with a preponderance of green vegetables, cooked and raw, and fruits, with sour milk. Tomato juice is excellent in this condition. It may be used instead of fruit juice in the initial part of the treatment, or it may be used freely in the

later diet. Water must be taken freely always and this means six to eight or more glasses a day. Bile salts in tablet form, procured at most drug stores, may be used if the bowels are extremely stubborn from a chronic insufficiency of bile, but such a preparation should not be necessary. General exercises should form a part of one's daily program of living, especially walking and exercises involving the trunk muscles.

*Gallstones.* Gallstones are concentrations of mineral salts in the gall-bladder or in the bile-ducts, more often in the former. They may be as small as a pin head or large as a pigeon egg. About three-fourths of the victims of gallstones are women, generally of plump physique and usually around the age of forty. Because of these facts corset-wearing frequently has been blamed. But a life of physical ease, especially when the abdominal walls have been allowed to become weak and prolapsed, is more likely to cause these concretions. However, they do not result even in such cases unless there has been an acid-producing diet, with wrong food combination, especially starches, which overload the liver and change the quality of the bile. Constipation is a contributive factor in practically all cases. Other causes that have been given earlier in the preceding pages usually are active in the production of gallstones also.

*Symptoms* of gallstones may be absolutely missing until a gallstone attempts to pass through the gall-duct or the bile-duct, when there results one of the most agonizing pains humans may experience—gallstone colic. During this passage the pain is burning, extreme and excruciating, and is felt in the "pit of the stomach" and to the right of this point.

The attempted passage of a large stone causes profuse perspiration, while the patient writhes in agony as the pain becomes unbearable. The patient may become unconscious. The pain may last from two to four hours or even more,

after which it subsides as the stone makes its escape into the intestine. The subsiding of the pain is by no means as abrupt as the onset, and a dull ache and great prostration usually remain. As a rule, this pain comes on very abruptly, giving no warning. The night time is a common occasion for it to develop.

Small stones may pass without suffering, but the passage of a number of such stones usually indicates that more serious trouble in the future is likely. In addition to the gallstone colic, where there are gallstones there is likely to be more or less distress in the stomach region relieved by the expulsion of gas, attacks of dyspepsia, and very frequently pain in the back or in the right shoulder.

Some stones are so large that they cannot pass through the duct, hence cannot cause gallstone colic. This is produced when the stones are small enough to enter the duct, but still large enough that they pass through with difficulty.

In the *treatment* of gallstone colic it may be difficult or impossible to give complete relief at once, except by the aid of a definite and powerful pain-killing agent. The pain or the cause of the pain will continue as long as the stone is in the bile-duct. When a pain-killing drug is used for this purpose, there may be pronounced delay in passage of the stone. Sometimes great relief is afforded by internal and external application of heat.

The drinking of large amounts of hot water often will bring considerable relaxation and hasten the passage of the stone. The water may be plain or flavored with lemon. A fairly-hot enema with as much water as the patient can take usually should be given after a quart or more of hot water has been drunk. Hot abdominal packs may be employed with considerable benefit. In an occasional case some relief seems to be afforded by drinking from four to

eight ounces of olive oil. If this is taken, it is well to follow it an hour later with a glassful of citrate of magnesia. Gentle massage about the liver and vibration over the liver area may be used also.

It is well that the patient engage in a fast for at least forty-eight hours. As a rule there will be considerable irritation of the gall-duct, together with more or less thickening of the bile, for which conditions a fairly protracted fast with abundance of drinking water would be corrective. In any case the return to food must be gradual. Buttermilk may be used with good effect, but in amounts not exceeding a quart to three pints for the first day and the quantity increased a pint or so a day. Instead of this diet, there may be used an abundance of cooked and raw green vegetables with buttermilk, with the first meal of the day preferably wholly of fruit.

The ridding of the gall-bladder of the stone does not rid the person of probability of further trouble. Frequently other stones are developing. To prevent their development it is necessary that one follow the suggestions given in the first part of this chapter on gall-bladder disease. If those suggestions are followed it may be possible to break down gallstones already forming so that they can pass without difficulty; also the future development of these little trouble-makers should be entirely prevented.

### HAY FEVER, ITS CAUSES AND RELIEF

What a blessing the great outdoors is and what a delight to get out into the open to walk through some country lane or beflowered part; or to enjoy the shade of a tree in mid-summer. But a near-tragedy befalls hundreds of thousands of people every year under just such circumstances. For them such places are regions inhabited by a source of torment.

Why? Because in these surroundings is incubated that bane of their existence—hay fever. Wherever those so affected may go, however careful they may be to keep away from Nature, many are attacked yearly by this aggravating, painful, distressing affliction. For the pollen of flowers and grasses and the dust of the earth are broadcast practically everywhere on wings of the wind. Those predisposed to hay fever cannot escape it if they remain within the range of these causative irritants. Once contracted it usually remains with the victim for six or eight weeks or longer.

Never make light of hay fever to one of these victims. There may be long or short periods when he is as well as anyone, or be completely over it within a few days toward the end of the season for it, and be as normal as ever, but this does not mean that the condition is insignificant and that he does not suffer while the disease is with him. He *does* suffer.

This disease begins, in different localities, from about June first to the latter part of August, and lasts from about the second week in September to about the end of October. At these times, victims of hay-fever are sniffling, sneezing, snuffling and sniveling their very hearts away.

The disease usually begins with a feeling as if a stray hair were brushing over the face, especially over the nose, and an uncertain itch within the nostrils. The sensation rapidly increases until it is wellnigh unbearable. Spasms of sneezing come on with "running nose," and watery eyes that are very painful in the light. These people are truly unwilling mourners at the shrine of the almighty pollen.

But why do these hundreds of thousands of people suffer from the condition while the rest of the millions who breathe the same air, containing the same pollens, dust, odors, animal emanations, etc., go free? Certainly if these things cause

the disease everyone would have it and we all would be a bunch of wheezers for two months or so each year. There is a great deal more at work to produce the disorder than these. Without a doubt goldenrod, ragweed, various grasses, asters, animal fur and many other things are causative factors, but they are only the match which sets off the brush into a huge flame that does not burn itself out until the first frost. Instead of being the real cause, they are merely exciting irritants which affect the already somewhat inflamed or later oversensitive membrane that lines the nose and throat. But neither is the inflamed membrane the real cause. We must go farther back than that. What is the cause? Very likely this is a morbid condition of the blood—a hyperacidity, resulting from abnormal cell-processes, or metabolism, possibly the result in part of an excess of certain food elements, a deficiency of other elements needed by the body, and insufficient elimination.

In other words, the "end-products" (final digestive products) of abnormal protein digestion fill the blood and cause the irritation of these sensitive membranes, which are doubtless improperly supplied with normal nerve and blood supply, as a result of some interference at or about the nerve origin—the vertebræ or the spinal muscles and ligaments. Others may have the same protein poisoning, but without the same conditions of the nerves, they may escape similar results. Again, some may be subject to these nerve conditions and yet not to such protein poisoning, hence may escape hay-fever. Susceptibility, or what is termed allergy to certain proteins is a factor, and persons who have the morbid state of the blood mentioned above plus susceptibility to these certain proteins are the ones most seriously affected.

The fact that the treatment here given produces the desired results in many cases shows that the above theory of cause

must be largely correct. Spinal treatments will be valuable, as the vicious circle must be broken somewhere. But the majority of cases will require direct purification of the blood-stream.

The absolute fast or fruit diet should be employed for at least several days. Many patients have fasted on water for from ten to thirty days for the eradication of this disease. It is often permissible in this condition to use a saline laxative in one large dose to cleanse the intestinal tract as much as possible at the very onset of the fast. If this fast is taken from three to six weeks prior to the expected onset of the attack, the attack may be aborted or minimized.

After the fast or fruit diet, the buttermilk or sour milk diet may be taken with great benefit. It should continue for at least three or four weeks. Following this the diet should be very light and free from any foods containing a large proportion of protein.

Breakfast may be merely one portion of fruit or all that is desired of one kind of fruit or fruit juice: or there may be any fruit desired and a glass of milk. It is well to have only one other meal, which may be taken at regular supper time (the breakfast being taken later than the usual breakfast time). This may consist of cooked and raw vegetables with whole wheat toast or whole rice or baked potato and fruit, with as much buttermilk or sour milk as is desired. After two or three weeks, this may be gradually amplified and the meals placed farther apart, so that a third meal may be taken if desired.

The daily enema, used after the third day of the fruit diet, should be dispensed with as soon as possible on the later diet. It is well to use a daily cold or short hot and cold shower, sponge or other bath—but the cold bath should be taken whether or not the hot is taken. There should be

sufficient relaxation and sleep, and spinal treatments may be taken daily or as often as the spinal therapist considers advisable.

Many people who have had hay-fever yearly for a number of years and have hit the trail for the White Mountains or the Thousand Islands or elsewhere to escape it as much as possible, hobnobbing during these sojourns with others of the hay-fever aristocracy, have been able to escape this aggravating disease by following rigidly such a treatment as is outlined above. Of course, relief in any case is attained least in locations where vegetation of a nature to cause hay fever is found.

It may be necessary to repeat such a regimen prior to the onset of the season of vegetation for two or three years, but usually one or two courses of this type of treatment will correct the tendency to its development.

### HEART DISEASE AND HEALTH

Heart diseases head the list among all causes of death from disease. Furthermore, heart diseases are steadily on the increase. When this vital organ becomes affected it is time to take a complete inventory, not only of one's physical condition in general and in detail, but of the various factors that make up one's daily life.

One woman patient had been told by her doctor that she had a "bad heart" and was cautioned against doing any of the things that would have benefited her heart had it *been* somewhat abnormal. Yet fifteen physicians after this first one had told her, after careful examination, that her heart was normal. Still, she believed the first one, and in her own mind continued to have "heart trouble" and constantly worried about it. The worry did not cause a heart affection later, but it did make her a neurastheniac. How-

ever, if there is something definitely wrong with the heart anxiety and nervous conditions will have a detrimental effect upon it.

There are numerous well-defined diseases of the heart. Chronic organic diseases are those to be considered here. The acute conditions should have professional supervision, so do not need to be considered in this chapter. Functional disturbances usually are merely symptoms, resulting from causes outside of the heart and not due to structural changes in the heart tissues. These also will not be considered at present. It is the organic conditions that are most frequent and for which home treatment will be necessary for the most part, for it is a matter of months before chronic organic heart disease can be sufficiently improved that one may be considered wholly out of danger and before one's life can return to comparative normal.

The organic diseases of a chronic nature in which we are most concerned are the chronic inflammations. If the pericardium or covering of the heart is affected, the condition is pericarditis; if the muscular walls are affected it is a myocarditis; if it is the heart lining, it is endocarditis, the most common heart affection. There also may be involvement of the arteries of the heart, as by a hardened or sclerotic condition with deposits of lime salts—the same as occurs in arteries anywhere else in the body in arteriosclerosis. Or the nerves of the heart may be affected, in which the beat is more or less altered.

The most common chronic organic affection of the heart is "leaking valves"—chronic valvular heart disease. There are four sets of valves in the heart and any set and any combination of sets of these valves may become abnormal. These valves are subject to much wear and tear in their function of aiding in the circulation of the blood. Because of their posi-

tion they are especially subject to any inflammation affecting the membrane that covers them—the “endocardium.”

These valves may be likened to the valves of a pump, which wear out before other parts of the pump and so require replacement. Unfortunately, however, there can be no replacement of the worn-out heart valves in man. Various changes may take place in the valves due to inflammation. Thus there may be a softening and disintegration, with breaking off or absorption of parts of the valves; or the valves may become adhered to the wall of the cavity; or excrescences may form on the margin of the valve; or the valve may curl up; or the heart cavity may dilate—any of these conditions preventing complete closing of the opening the valve was meant to guard, thus permitting blood to flow backward when it should be going forward, or preventing the onward flow of the blood.

The characteristic signs of valvular heart diseases are heart murmurs, which vary according to the valves affected; pain of varying degrees and nature, a rapid and weak pulse, shortness of breath, impaired circulation and blueness of the lips and extremities. These symptoms are much less pronounced when a person is reclining but become accentuated upon the slightest excitation. Fainting is likely to occur when the condition is more pronounced and the compensation of the heart-muscle is broken or defective. The natural termination of this condition is heart failure, though it may not occur for many years, during which time a reasonably active, productive, normal life may have been enjoyed.

One of the intermediate effects of this failure of the valve to close the opening is a backing up of the blood into the heart chamber just before the damaged valve, or into the lungs or some of the organs of the abdomen. If the blood is backed up into a chamber of the heart there is a gradual

dilatation of this chamber. If the muscle tone is good the heart becomes merely hypertrophied, or enlarged; but if the muscle tone is weak there is an actual dilatation, due to the thinning of the muscle tissue. This is a precarious situation.

Because of the incompetence of the valve they have various common names for this type of heart trouble: organic heart disease, valvular disease of the heart, valvular regurgitation, cardiac insufficiency, valvular incompetency, stenosis, valvular leakage, chronic endocarditis, etc. Since the physician upon listening to the heart sounds can hear a "swish" of the blood as it regurgitates, it is said that the patient has a "murmur" in his heart.

Angina pectoris, usually regarded as a disease of the heart, is a painful and fearful affection. The pain varies in intensity, and the heart-action is more or less greatly disturbed. When the pain develops the patient fears to move and has an expression of great anxiety, for there is an associated feeling of impending death. The paroxysms may last for a few minutes only or they may continue for hours. Successive paroxysms are apt to increase in frequency. This condition is ascribed to sclerosis (hardening) of the coronary arteries—the arteries that feed the heart muscle—or to some other organic heart disease. After the age of forty-five is the most common time of the development of this disease.

The cause of heart disease may be considered as any factor aiding in the accumulation of poisons in the body. The toxic substances that would have been eliminated in the acute infectious disease, plus serums, vaccines and drugs are considered by many authorities to have an injurious effect upon the heart. At any rate, heart disease follows very frequently such diseases as rheumatism, diphtheria, scarlet fever, tonsillitis and venereal diseases. Many patients will date the beginning of their heart trouble from an acute ailment. This being so,

the best way to avoid heart disease is to avoid acute illnesses.

But there are numerous other contributing causes of heart disease. Foci of infection in any part of the body, such as abscesses at tooth roots, or in the tonsils, or elsewhere, ulcerations, and other sources of pus in the body. The strain and the toxic influence of overeating is a frequent cause or at least a contributing factor. The injury to the heart from tobacco, alcohol, coffee, tea, coco beverages and the habitual use of drugs may seriously injure this vital organ. Frequent exposure to pronounced muscular fatigue and to cold, also sexual excesses and the hurry and worry incident to present day business life are among the causative factors.

Excessive physical exertion before maturity is a potent cause of heart disease. Undeveloped boys and girls who are obliged to work beyond their physical capacity may develop heart affections under the strain. There may not seem to be any serious manifestations of disease for a number of years, but the cause often is in the growing period of life. Men and women who were athletic in early life frequently have heart trouble, due to the fact that they have developed a large fibrous heart during their training days and then allowed the heart muscle to become atrophied and weak and replaced with fat through a later life of ease. At some later time they engage in some sport or activity, temporarily, feeling themselves to have their old-time strength, only to develop acute dilatation.

This indicates the inadvisability of attempting a sudden spurt of athletics without having ample reason to know that the heart and other vital organs can withstand the strain. It also indicates the importance of tapering off from athletics gradually, rather than suddenly, as so often is done after high school or college.

In the symptoms of heart disease there may be none defi-

nately referable to the heart itself. Often the first trouble noticed is with the digestive system. Many people have heart disease and are not aware of it until they consult a physician for examination to determine the cause of shortness of breath. One patient, a woman of forty-eight, with two grown children, went to a physician for her insurance examination. She was found to have a valvular leakage, the cause of which, so far as could be determined, being scarlet fever at the age of nine, there having been no other condition to which it could be ascribed. When this woman was refused insurance she discovered why, and from that time on she began to have symptoms of heart disease.

Sometimes the first symptom noticed is a slight cough, probably streaks of blood in the sputum, which causes the patient to consult a physician for treatment for lung or bronchial trouble. It is the backing up of the circulation in the lungs and bronchial tubes which causes this cough, with possible rupture of some capillaries. Sometimes this backing up of the blood causes congestion in the digestive organs, resulting in indigestion. Practically every organ in the body may present symptoms due to this failure of the heart to accept full quantity of blood and pass it on normally. There also may be shortness of breath on slightest exertion; headache, ringing in the ears, dizziness and insomnia, circulatory defects, giving cold hands and feet, interference with the kidneys, shown either in the function of urinating or in the findings in the urine. The pulse at first may be strong and rapid, but later becomes rapid, weak and irregular, and there may be disturbing heart-symptoms. The lips may be pale or purplish; there may be pains or aches in the region of the heart, or extending to the left shoulder and down the arm (characteristic of angina pectoris). There may be gradual loss of weight and a gradually increasing weakness.

If compensation fails, due to gradual playing out of the heart muscle, a dropsical condition develops, which may affect the limbs and abdomen, though at first it may involve merely the tissues below the eyes or the eyelids.

Any of these symptoms may result from some other condition than heart trouble. If one experiences them, one should not immediately jump to the conclusion that one has heart disease. If due to heart disease most of such symptoms can be overcome or greatly alleviated.

It is well to have an examination made if there is a suspicion of heart trouble. It is my opinion that it is better for the majority of people to know whether such trouble exists, for there are certain things that they should do and others that they should not do if they want to preserve the heart.

It must not be expected that a valve can be restored to normal, but in many cases the muscular walls of the heart become stronger and thicker so that the heart is capable of pumping as much blood as before. As long as this condition remains there is *compensation*, and so long as this is maintained through proper care and treatment the patient will get along as well as before. But compensation is lost when the heart muscle weakens or the cavities dilate, and the symptoms of heart disease return.

*Treatment.* In order to secure satisfactory results in the treatment of organic heart disease it is necessary that the general bodily vigor be increased. One of the most important factors in the treatment is diet. It is important that the quantity of food be kept down to actual body requirements, and that the food be easily digested. Overloading the stomach can result only in continuation and aggravation of the heart trouble. Unless there is decided emaciation the diet should be quite abstemious. It is advisable in this case to weigh daily for a time, in order to determine the amount of food

required to maintain the body at normal or somewhat below normal or to permit it to reduce slowly until it approaches nearer normal.

A complete fast is a very excellent treatment for this condition, but it should be of only short duration—from two or three to six or eight days, depending upon the general condition. If there is no dropsy it often is better to use the fruit diet instead of the absolute or water fast. If a complete fast is taken one should devote two or three days to the fruit diet when the fast is broken. The enema should be used daily during the fast or fruit diet if spontaneous elimination does not take place.

If there is no dropsical condition the milk diet is excellent in heart disease, but one should work up quite slowly to somewhat less than full quantity as the maximum allowance. Usually it is better to begin with one-half glass every hour (after the fast or fruit diet) and increase each day's allowance an ounce or two at each feeding until three quarts daily are taken, then to increase a glass a day until four or a maximum of four and a half quarts are taken daily. The juice of an orange or two should precede the start on the milk each morning, and the enema should be used for elimination if necessary rather than to use any laxative food with the milk.

Instead of the milk diet one may use fair amounts of raw vegetable salads, cooked green vegetables, root vegetables, fresh and sweet fruit and sweet or any form of sour milk. Toast may be used also, but preferably not breads unless they are dry. No other cereal should be used for some time, relying upon the sweet fruit and milk for the carbohydrate requirement.

Exercise as well as diet is helpful in the treatment of chronic heart disease. The heart can be strengthened only by exercise. Its rhythmic beating is an exercise, but the heart would be-

come quickly weakened if its owner were to lie in bed all of the time—even though it beat regularly during this time. The heart is composed practically entirely of muscle, and the only way it can be exercised is by sufficient exercise of the skeletal muscles to increase the force and frequency of the heart-beat. Naturally, all violent or straining exercise must be avoided. At first it may be necessary for a person only to practice some leg-raising and arm-raising movements while seated or while reclining, though it is not advisable to raise the arms over the head in most cases when the heart is seriously affected.

Walking is the most valuable type of exercise. When walking is begun one may gradually increase the distance covered, going at a slow gait at first. A furlong and back (or even less) once or twice a day may be sufficient for two or three days, then the distance may be increased one-half block each way daily. After considerable distance can be walked this way it is permissible to slightly increase the speed, or to select a very slight incline up which to walk for a number of steps. First the distance up the hill may be gradually increased, and then slight increase in the speed. Then a slightly increased incline may be used; and so on, up gradually steeper inclines.

Usually there will be breathlessness, dizziness, blueness of the lips, palpitation or some other definite indication that the exercise has reached the limit of one's heart endurance before the heart has been definitely damaged by the exercise, and when such symptoms develop one should cease exercise for that period and secure complete rest until recuperated. Some patients have been able to so increase the strength of the heart muscle that they could take a regular thirty-minute calisthenic exercise period or swim or play volley ball or go over trails up the hills without any symptom of heart af-

fection. Such improvement has required many weeks, of course.

In addition to diet and exercise, the circulation should be aided by other means also. One should use the tonic bath daily. There is no better heart exercise of a perfectly safe type than this. The tonic bath is a bath at below body temperature. It may be at eighty degrees, seventy-five degrees, sixty-five degrees or on down, but it should be at such a temperature that, while it requires reaction, it does not produce a pronounced shock. One may ultimately become able to take a cold plunge, but this never is really necessary for the heart nor for any other organ or function of the body. The temperature of the water should be reduced gradually from day to day.

One of the best means of securing this tonic bath at first is by the wet-hand rub. The shower is satisfactory also, or one may use the splash method or a sponge or wet cloth. It is the reaction from the cold bath rather than the cold itself that secures better skin circulation to relieve the heart of some of its work, but the cold bath driving the blood inward and the reaction calling it out again, is a very excellent heart exercise through effect upon the nerves and blood vessels. If the reaction to cool or cold baths is poor it is better not to attempt this form of bath.

It may be necessary to bathe only one part of the body at a time at first and to use water very slightly below body temperature. But gradually more and more of the body and cooler and cooler water can be used.

Air-baths are excellent in this condition, and sun-baths also, though care must be taken to avoid sunburns. Any sun-bath should be followed by a tonic bath to overcome the weakening effect of the infra-red rays, whether of natural or of artificial light.

It cannot be over-emphasized that exercise is necessary for correction of heart trouble. But also it must be equally stressed that over-exertion is dangerous and may be fatal. One should advance very slowly in muscular efforts. Also in the use of cold water. Many heart patients who previously have been denied exercise or activity of any kind will in time be enabled, by following the proper dietetic, exercise, bathing and resting program, to perform considerable amounts of activity, both physical and mental.

### **HEMORRHOIDS (PILES) AND THEIR RELIEF**

Hemorrhoids are very common and often they cause considerable trouble. They are small tumors consisting of enlarged, tortuous and varicosed blood-vessels in the tissues of the rectum, appearing at the edge of or just within the anus and causing considerable pain during evacuation of the feces. Sometimes the mucous membrane is extended outside the anal orifice. The veins often become inflamed, and frequently become occluded by blood clots.

There may be external or internal hemorrhoids, also bleeding and itching hemorrhoids, but the cause is practically the same in all cases. The external variety may be seen at the margin of the anus as small, hard, rounded, purplish masses. The internal variety may or may not protrude through the anus.

Though piles are regarded by most members of the medical profession as a purely local disturbance, it has been proved that constitutional measures, without any local measures whatever, usually bring relief and often the ultimate obliteration of the piles; whereas local measures, surgical or injection treatment, may prove only temporarily of benefit.

Chronic constipation is a predisposing cause of piles. The

attendant straining at stool aggravates the tendency to the condition. Among other causes are lowered tone of all tissues, obesity, protracted standing on the feet, liver congestion, enlarged prostate and heavy uterus. Such exertions as lifting heavy weights may cause piles. They frequently result also from diarrhea and dysentery and cystitis or inflammation of the bladder. However, few hemorrhoids would develop if the general circulation and especially the abdominal circulation were kept normal. But from inactivity of the abdominal muscles and a wrong diet various conditions result which lead to the development of hemorrhoids.

An inactive liver, often resulting from such conditions, prevents return flow of the blood through the hemorrhoidal vessels of the rectum and abdomen, resulting in a stagnant condition in the rectum—the starting point of the hemorrhoidal vessels. The backing up of this blood in the rectal tissues causes local engorgement and reduces tone. At first this is a temporary condition, but in time becomes chronic. When this state develops, especially when there are some of the other causes mentioned, hemorrhoids are very likely to develop, especially if there is straining at stool.

*Symptoms.* Piles usually develop slowly and may not be detected for some time after their beginning. Usually there are pain at stool, slight bleeding when the piles are internal, a feeling of soreness and irritation after evacuation, and usually a feeling of incomplete evacuation. There may be a feeling of weight in the rectum. Constipation becomes aggravated as a rule, because of the dread of evacuation on account of the attendant suffering.

*Internal piles* are associated with bleeding, protrusion during defecation, the sensation of fullness in the rectum and possibly a mucous discharge. There may be enough bleeding to result in anemia. Often there is a tenesmus, or spasmodic

tightening of the rectal sphincters. *External piles* often cause pronounced local itching. The mucous membrane may become inflamed, the piles increase in number and the pain and bleeding become profuse when the condition is neglected. The piles at first may be no larger than a pea, but may increase to the size of a plum.

*Treatment.* It is much better to prevent hemorrhoids than to await their development and then cure them, but usually this complaint is not considered until it has really developed. However, if a person lives on the proper diet, maintains normal elimination and maintains good tone of all the muscular system, internal as well as external, there need be no fear of the development of piles. Treatment must be constitutional and local. Constipation must be corrected. General muscular exercise is important, but particularly abdominal exercises, and especially on an inclined support (gravity exercises). The knee-chest position, also walking about the room on hands and feet are very helpful also.

Diet is one of the most important factors of treatment. The fast is excellent in this condition because it reduces congestion in the liver and in the hemorrhoidal vessels. A complete fast (or a fruit diet) may continue for from five to twenty days, or even longer if the condition is extreme and the weight normal or above normal.

The milk diet may follow the fast or fruit diet to advantage, provided constipation is not allowed to develop on the diet. It improves the quality and circulation of the blood, also tissue tone, more rapidly than any other diet. However, in many cases it is better to use a solid food diet, having an abundance of the green vegetable salads, cooked green vegetables, raw and stewed fruit and milk in some form, preferably buttermilk or sour milk, also fair quantities of whole grain cereals.

On the milk diet it usually is advisable to inject two or three ounces of olive oil into the rectum every night before retiring, but this may be used on the solid food diet also unless elimination is free. The cold sitz-bath taken morning and evening usually is of considerable value, though of course reaction to warmth must be prompt and complete. The very hot shallow bath or the hot sitz-bath may be used, followed by a similar cold bath or cold spray, usually with much benefit. It is of value also to inject one-half pint of cold water into the rectum or three or four ounces of witch hazel, either to be retained.

Rectal dilation is excellent in hemorrhoids also. This may be given by hard-rubber dilators, procurable in any drug store in a set of four. It is best to begin with the smallest size and change to a larger size every few days or each week. One should use the largest size that can be used comfortably. The rectal attachment of a portable electric vibrator also may be used once or twice a day for two or three minutes, with relief and real benefit.

Spinal manipulative treatment often is of great value, but this should be osteopathic or confined to some type of manipulation that reduces contractures along the lumbar spine. The hot-water bag or hot compresses may be used locally to the anus, but if used for from fifteen to thirty minutes it is better to terminate the treatment with as cold an application as possible for from one to three minutes.

Operation has been performed countless times in the case of hemorrhoids and still is performed quite frequently. But the modern treatment replacing surgery is the injection method. Often hemorrhoids return after either surgery or injection treatment, for the simple reason that nothing is done to improve the tone of the vessels and the circulation in general. Where the above treatment, in whole or in part, is used

faithfully, the hemorrhoids usually will be greatly relieved within a short time and eradicated within a very few months, and they are not likely to return if general tone is maintained and a suitable diet for general health continued.

### HIGH BLOOD PRESSURE—ITS RELIEF

Doctors might as well tell their patients their blood pressure is fast or slow, acute or chronic, temporary or permanent, flat or oval, or anything else that enters their mind as to tell them that it is high or low, for only a few patients know about what it means—if it is not thoroughly explained. And many doctors are rather averse to explain abnormal conditions or any physiological activity.

Some doctors are inclined to frighten their patients by mentioning the outcome of high blood pressure, emphasizing the most serious consequences, and by not being able to assure the patients that such “accidents” need not be encountered. The mere recital of such possible consequences is enough to raise the blood pressure several points in many individuals.

What is blood pressure? It will be found explained in the discussion of *Low Blood Pressure*, on a later page. High blood pressure is that above 150 mm. as explained in the discussion mentioned, but it would be a great deal better for most people if their blood pressure never reached this high point of normal—the normal range being from 100 to 150 mm. If one could keep the pressure from going above 135 mm. even in old age there would be less wear and tear upon the heart, blood-vessels and general system.

The *direct* causes of high blood pressure are abnormal resistance in the walls of blood vessels, and increased heart action. The *underlying* causes are toxemias, or a condition caused by lack of proper care of the skin by suitable baths, free perspiration, or porous clothing, which may so constrict

or partially occlude the capillaries or so thicken the blood that it cannot flow normally through the capillaries. Gradual deposition of calcareous mineral matter in the blood-vessel walls, from these same causes and a concentrated diet deficient in water, fruits and vegetables, will in time so harden these vessels that they lose their elasticity and thereby offer more resistance to the circulation of the blood.

Kidney disease may cause a retention of certain substances in the blood which irritate the nerves of the vessels and cause a contraction of the muscular walls of the blood-vessels, thus increasing resistance. The heart may become enlarged because of leaking valves or through excessive muscular activity or abnormal kidney or nerve action, and give a more powerful beat. In this case Nature may gradually deposit additional material in the vessel wall to combat the increased force of the heart-beat, but in her preservative action she becomes over-enthusiastic, and in time the vessel walls become hard and resistive.

The sections of the brain that control the tone of the blood-vessel walls may be over-stimulated by mental stress over long periods of time, by anxiety, worry, or other emotions, and the vessels become contracted from too much tone. Any condition that increases resistance will in time enlarge the heart, which will then continue to maintain the high pressure. One rarely finds a case of very high blood pressure without also having to deal with some degree of arteriosclerosis, kidney disease or heart enlargement.

These various causes are, in turn, due to excessive food or an unbalanced diet, insufficiency of water-intake, dearth of fresh fruits and green vegetables, too much meat, starches or sweets, constipation, excessive mental activities, physical activities that overtax, especially competitive sports and athletics, and various other dissipations.

The symptoms may be those of heart disturbances; of kidney trouble; or of cerebral (brain) irregularities—irritability, excitability, emotional outbreaks, insomnia or drowsiness, memory affections, visual disturbances, headache, head noises; or various sensations in or clumsiness of different extremities—the extremities may pain, tingle, feel numb, or “go to sleep.” Nosebleed is quite common, and may be frequent and profuse. The stomach may be much disturbed, with various symptoms of indigestion, and there may be lung or pleural affections. The patient may feel quite well until some condition of a more or less serious nature is brought on suddenly by over-exertion physically, mentally, or emotionally. Plethoric or “full-blooded” people are more usually susceptible to high blood pressure, but slender ones also may be affected. After the arteries become hardened the weight usually reduces.

The treatment of these high blood pressure cases cannot be expected to prove effective unless any exciting cause or causes be avoided. The environment, including one's occupation, should be agreeable. Medical men say, “determine the cause and treat that,” because they treat different organs and symptoms with different drugs. But as natural treatment is in the main similar for various abnormal conditions, the placing of the patient on a program that will allow the entire body to be restored to as nearly normal as possible will do all that treating any specific organ will do, and vastly more. However, it is advisable to have a capable physician in charge of critical or severe cases.

The most important factor of treatment, next to mental equilibrium or calmness, is diet, because practically every case of high blood pressure, whether considered more directly due to kidney, heart or circulatory disorders, in reality is due to dietetic errors. Whether the blood pressure be dangerously

high or merely above normal there should be at once a curtailment of diet. In the dangerously high cases the absolute fast or a diet of fruit juices or vegetable broth alone should be taken—and such a diet would be good in the initial treatment of any case. Whether such a limited diet is followed or not, every protein, starch and unnatural sweet should be eliminated from the diet until the pressure has been reduced to safety. Juicy fruits may constitute one or two meals a day, with or without a small amount of milk, and the other meal should be strictly of green vegetables, both cooked and uncooked. Spices, condiments, tea, coffee, alcohol and tobacco are strictly taboo.

After considerable reduction of pressure the diet may include further foods, but if meats and starches are resumed they should be taken extremely sparingly and not oftener than twice a week each. Natural sweets may be used in moderate amounts, also natural fats—cream and butter especially.

If there is pronounced hardening of the arteries the reduced milk diet will be of benefit, and in the milder cases the full milk diet will be of great value. Considerable water should be drunk every day unless the full milk diet is followed.

The bowels must be kept active, and this may be accomplished by the fruits and vegetables or, if necessary, by the enema. The skin activity, also, must be increased, so as to reduce toxemia and, especially, so as to reduce the resistance to the circulation in the skin vessels and, through these, in the entire body. As this cannot be accomplished by exercise in these cases, especially if extremely high blood pressure exists, various water treatments may be used, and very effectively and safely.

An immersion bath at ninety-eight to one hundred degrees for fifteen minutes (more or less) may be given once or

twice a day; or a cold wet pack about the trunk, covered thoroughly with dry blankets, may be given twice a day, for from thirty to forty-five minutes at a time; or the entire body except the head may be wrapped in a sheet wrung from water at about seventy degrees, in a dry blanket covering the sheet snugly. Usually the reaction will not be long delayed. But to hasten it if necessary and to induce perspiration fairly quickly, hot-water bottles may be placed about the patient's feet and thighs, beneath the dry blanket. More blankets may be spread over the patient, who should meanwhile drink copiously of hot, unsweetened lemonade or plain hot water. If there is a tendency to headache or any other cerebral symptoms, a cool cloth may be placed on the forehead or about the head.

The headache of high blood pressure usually can be greatly alleviated by the long neutral or barely warm tub bath, with cold cloths or turban about the head; by cold cloths over the heart region covering these cloths with heavy blankets, or by the hot foot-bath or hot leg-bath—the latter being taken the same as a foot-bath except that a large pail or other deep vessel is used, with the water nearly to the knees. The water for both the foot and leg bath should first be at about one hundred four degrees and increased gradually (within three minutes) up to one hundred eighteen degrees or one hundred twenty degrees. A cold turban may be about the head during this bath, which may continue for from ten to thirty minutes, according to effect. The feet should be given a quick cold splash or dash immediately at the finish of the hot bath. These treatments may be given for any case of high tension, whether or not headache is among the symptoms present.

Exercise is an important part of the treatment of beginning high blood pressure, and later in severe cases after the tension

has been brought down to a safe point. Exercise must necessarily have some effect upon the skin, increasing at least the "invisible" perspiration if not producing "sensible" (visible) perspiration; and this is a valuable effect in these cases. Exercise also dilates the arteries, the arterioles or minute arteries, and the capillaries. Furthermore, it has a favorable effect upon the region of the brain that largely governs the tone of the vessels, relaxing this tone when too high, and thus lowering arterial resistance.

The effect of exercise may be surmised from the fact that manual laborers are not nearly as frequently affected with high blood pressure as are mental workers, especially those who take upon themselves unnecessary burdens. Worriers may be called mental workers, so far as the maintaining of excessive tone of the arterial system is concerned and so, also, may those who are excessively active emotionally. The types of exercise most valuable are walking, resistive movements (resistance by an attendant), and slow active movements of various muscle groups. A considerable amount of time should be spent in the fresh air, for the beneficial effects of the air and sun upon the skin and of the oxygen upon the lungs.

It should be remembered that high blood pressure may develop insidiously—and that the brain, the kidneys, the heart or the blood-vessels may be seriously affected in this condition. But it is not until the causes have been long continued and until there has been considerable degeneration in some or all of these structures that the serious "accidents" or possibilities are encountered. Even after one of these serious complications much can be done to bring about more nearly normal conditions, and the patient be permitted to enjoy a fair degree of health—whether the serious occurrence involve the brain, the heart, or the kidneys. As a safety precaution

it should be a routine procedure by everyone to have a thorough examination of the vital organs and the blood pressure noted every year at least. It would be well to adopt the plan of having such an examination each birthday. It might serve to catch one speeding up too much and detect a beginning break, and thus put one more on his guard.

High blood pressure is quite amenable to treatment if taken in hand when detected and combated in a natural, constructive manner. And as worry aggravates it greatly, one should avoid this as much as possible. If you have it, get after it rationally, but at the same time let events shape themselves much as they will, and "let the rest of the world go by." One certainly cannot keep up a fast pace of living with high blood pressure. One must plan to take life calmly, and philosophically.

### **HYDROCELE AND SIMILAR DISORDERS**

Hydrocele is an accumulation of serum in the scrotum. Normally there is a limited amount of serum within the scrotum and in the walls of the testicles to serve as protection against friction and for better health of the cells, but under certain conditions this fluid increases in quantity and may become extreme in amount.

While there is little pain or distress with this condition there often is sufficient swelling to cause much inconvenience. When appearing later in life it usually results from injury to the testicle, from gonorrhreal infection, from obstruction of the abdominal veins, or tuberculosis or general dropsy. It may cause sufficient pressure upon the testicle and spermatic vessels to have the effect of causing atrophy or defective functioning of these glands.

Hydrocele may exist from birth (*congenital hydrocele*). This condition like a rupture, is reducible, for the scrotum

communicates with the internal abdomen. Again, like a rupture, it may show an impulse on coughing.

In *acquired hydrocele* the communication with the abdominal cavity is cut off in the inguinal canal (in the abdominal wall) so that the swelling is not reducible and there is no impulse on coughing. *Encysted hydrocele* is another form involving mainly the scrotal portion of the spermatic cord. This form may arise from either the testicle or the epididymis, an elongated body attached to the testicle, in the scrotum.

Congenital hydrocele often terminates spontaneously in the course of time, though usually it is necessary to wear a special support. Sometimes a simple surgical operation may be advised, this consisting merely of eradicating the neck of the sac. Sometimes a congenital hernia (or rupture) accompanies this condition, because of the abnormal opening in the inguinal canal. Many cases of hydrocele are incurable except by surgery, for even if one succeeds in reducing the accumulated fluid, more very likely will re-form unless the sac of the tunica is eradicated.

*Treatment.* In those cases where the individuals do not wish to submit to operation, natural methods may be tried—though the prospects of complete cure are not bright. Both local and constitutional treatment will be required. It may be necessary to build up or restore vitality to a high degree. The cold sitz-bath upon arising and upon retiring is one of the best local treatments. It is not advisable to continue these baths long enough to prevent prompt reaction to warmth upon terminating the bath. After the cold sitz-bath taken shortly before retiring, a cold wet cloth should be applied to the affected part. This may be held fairly snugly in place by an athletic supporter or by a "T"-bandage.

The "T"-bandage is a waist band four to six inches in width to the center of which is sewed at right angles, a

similar strip which is brought up between the thighs and pinned to the front of the waist band after this has been pinned snugly in place.

If the cold sitz-bath is taken for a few days without noticeable results, it may be beneficial to apply a mud pack at night, held in place by the "T"-bandage and removed in the morning. The cold sitz-bath may be taken upon its removal. Exercises taken head downward on an inclined board, or a similar position taken without exercise, will be of some benefit in the congenital type, but will have less effect in other types.

Fasting may be employed with temporary favorable results. The fluid not infrequently reduces appreciably when food is withheld and a limited amount of fluid drunk. But the tendency in this condition is for the fluid to re-accumulate shortly after resuming eating and drinking the normal amount of fluid.

As has been stated, surgical interference usually will be necessary in this condition. The operation does not involve removal of any structure but merely correcting a difficulty. The type of surgical procedure will be determined by the physician or surgeon, and of course will depend upon the type and severity of the affliction and the age and condition of the patient.

### **INSOMNIA—ITS CAUSE AND CURE**

There are a great many genuine insomniacs, but there are many others who are only imaginary insomniacs. Insomnia is inability to sleep sufficiently soundly or enough hours to recuperate the energy that is lost during the day. There are many people who imagine they do not sleep enough, though there are many who would be better physically, nervously and otherwise if they would get more refreshing sleep.

It is possible to have less sleep than is recognized as normal, for many months or even for years, without any great reduction of general vigor. However, as a rule if the loss of sleep is considerable there will come a breaking point. It is not the number of hours that one spends in the unconsciousness of sleep that is so important, but the depth of sleep—the completeness of the unconsciousness. Much depends also upon one's relaxation during sleep. The more complete this is, the more complete is likely to be the recuperation. A great many people have a general tension throughout the muscular system during sleep—in spite of the general belief that sleep itself induces relaxation even though it may not be complete upon entering sleep.

One of the chief reasons for the ill effects of reduced sleep is the worry resulting from it. This often will do much more harm than even several hours less sleep than is considered normal. One patient whose main subject of conversation during the daytime was his insomnia, was found to be sound asleep when his room was entered at ten o'clock at night, and again (or still) at five o'clock in the morning. Yet upon inquiry the next day as to how much he slept the reply was, "not a wink." It was found that this individual slept several hours a night, and it was the fact that he was awake part of the time and that he dropped off to sleep and awoke without any physical reactions, that he considered that he had not slept at all.

Sleep is as necessary as food and air—yet people often get along with less food and less air and less sleep than they really should have. Failure to sleep sufficiently is indicative of abnormal mental or nervous conditions arising from the high pressure of present-day business and social life—as well as of dietetic errors, lack of exercise and the artificial over-stimulating recreations of modern civilization. Sleeplessness

occurs in many general and organic diseases, but these do not need consideration here. Usually this is one of the most readily corrected of all "nervous disorders" when the proper dietetic and constitutional treatment is employed.

*Treatment.* When possible the cause or causes most prominent should be discovered and properly treated. Some way must be discovered to permit the brain to become somewhat drained of blood for the sleeping time, since more or less anemia of the brain is the chief physiological reason for sleep. When one sleeps poorly or none at all there is too much brain circulation. Nervous tension often is responsible for this.

One of the chief needs to induce sleep is the production of a condition of boredom. It is necessary that the skin be free from stimulation, also the senses of sight and hearing. If there is a cold air blowing over one or if one is cold, or if there is a burden of too much bed clothing, or if the night clothing becomes twisted in such a way as to become constricting to certain parts, sleep may be difficult to secure. If there is light within or without the room, or if there are sounds reaching the ear, there may be no sleep in hypersensitive individuals.

One of the best means of aiding in securing early and sound sleep of sufficient number of hours is to secure a wholesome physical fatigue. Often a toxemia or acidosis combined with sluggish circulation resulting from sedentary or inactive life will prevent proper sleep. One should exercise sufficiently during the day that gradually there is an improved tone of the muscular system and of the circulation. This has a quieting effect upon the nervous system, for it tends to normalize it. One must be careful to avoid over-exercising, however. From five to fifteen minutes of moderate exercise just before retiring, with special attention to such movements of the back and neck as assist in inducing a free and regulated

circulation, will have a very beneficial effect. By sitting up in bed and clasping the fingers beneath the knees and pulling vigorously several times or until the back muscles are thoroughly stretched and relaxed, one may bring on sleep. A similar movement is sitting up and reaching far beyond the toes or as far toward the toes as possible; or grasping the hands behind the neck and pulling the trunk forward. Another very excellent movement is lying face down with the hands at the small of the back and then arching upward as completely as possible, as if attempting to telescope the spine. One of the simplest exercises, however, is moderately vigorous walking before retiring. One patient who could find no means of securing sleep was induced to walk just before retiring. She found someone who would walk with her and every night they walked at the rate of four miles an hour for from twelve to eighteen miles. This patient developed the ability to sleep soundly. It is not necessary to walk such distances, perhaps, but a walk of four or five miles, if strength and energy permit, will be much better than a walk of a mile or so. One should not stroll, neither should one walk so rapidly as to become tense. A rate of three and a half miles an hour, for the average person, would be satisfactory.

Whatever else is done, it will be necessary for the body to be freed from toxemia. It may not be necessary to fast or to go on a fruit diet, but such a procedure would be beneficial in many cases. It is necessary, however, that an alkaline diet be adopted and continued. The alkaline foods happen to be the foods that supply the important minerals and vitamins—fruits and vegetables of all kinds and milk. Whole-grain cereals should be used also for their laxative effect. One may use small amounts of meat or other strict proteins besides milk, but the diet should be predominately of the alkaline foods mentioned. Constipation must be corrected.

A very good method to secure relief in many cases is the cold wet towel applied around the neck. This may keep one awake, in which case two or three thicknesses of old sheeting should be used instead of the towel, and this wet pack covered with a dry flannel. A girdle pack may be used—old sheeting wrapped around the abdomen after wringing from cold water, and covered with dry flannel.

A neutral tub bath of from ten to twenty minutes duration often induces sleep. Sometimes it is necessary to prolong it for an hour, but it should be taken for as short a time as will prove effective. Often a cold bath, preferably by shower, continued for four or five minutes and taken just before retiring will be helpful, especially if there is only moderate friction, by complete drying. A nude air-bath, especially with deep breathing exercises accompanied with body bending movements will be very relaxing in many cases.

Another very excellent treatment is the cold foot-bath with friction. If a flowing foot bath can be obtained the results usually are still better. Walk up and down in the bath tub containing three or four inches of cold water, or friction one foot with the other, in either case until the feet are pink from the reaction; then dry and retire. The improved circulation at this turn around point usually will draw the blood to the lower extremities or at least away from the brain. A sitz-bath, especially if the foot bath is taken at the same time, usually will have a similar effect. The hips and feet may be in moderately hot water for five or six minutes, and then the hips in a cold bath or sprayed with cold water for one-half minute or so, and then the feet quickly dipped in cold water and all of the immersed parts dried.

Massage, mechanical vibration, osteopathic or other manipulative treatments of the spinal area in most cases will have a sleep-inducing effect.

It is necessary that the mind be calm and free from any worries and perplexities. One cannot take one's problems to bed with him and expect to secure sleep promptly. Aim to keep the mind as near a blank as possible. It often is well to visualize a blank black wall occupying the entire field of vision. It is not advisable to count sheep going through a hole in a fence or to engage in any other mental activities of this nature in order to secure sleep. One cannot woo sleep in this manner nor will one secure good sleep by fighting insomnia. One should have light relaxing thoughts of only the most unimportant, cheerful objects—and pay no attention to whether or not sleep comes. The less one cares whether or not there is sleep the more likely it will come to one, and in sufficient amounts to aid one to keep in normal physical, nervous and mental tone.

## KIDNEY DISEASES AND KIDNEY STONES

The eliminative system of the body might be compared to the sanitary department of a city. An efficient sanitary department means a clean, healthy and beautiful city; an efficient eliminating system means the same state of affairs in the body. Let but one of these functions in either the city or body fail to do its work and the entire city or body suffers.

It is when the drainage system of the body—the kidneys—get out of order that Bright's disease or chronic nephritis develops. (This disease stands as the fourth in frequency among the causes of death, being exceeded only by organic heart disease, tuberculosis and pneumonia.)

The kidneys are subject to acute diseases as well as to chronic disease. If, however, one would follow the natural methods of living and avoid all stress of the kidneys it would be highly improbable that acute disease of this order would ever develop.

Chronic Bright's disease may result from an acute attack of kidney disease or, as is usual, it develops slowly and insidiously. It is the price paid for living the usual conventional life, which transgresses most of the laws of right living, particularly when there is a definite susceptibility of the kidneys to disease.

The various causes of kidney disease are numerous. Among the prominent ones are the following: Over-consumption of protein, particularly of flesh foods; of all foods beyond the body's needs; the use of salt meats, heavy foods, vinegared and salted foods, also those that are spiced, denatured and devitalized; the drinking of tea, coffee and alcoholic beverages; constipation, which throws extra work upon the kidneys; excessive mental and physical activity; the use of drugs for various diseases and symptoms, especially the suppression of acute disease and symptoms by drugs. It does not require all of these to produce a condition of toxemia—poisoning of the blood.

Teeth far decayed, tooth-root abscesses, tonsillitis or organically infected tonsils and other local sources of infection or previous infectious disease have some bearing in the causation, but these themselves must have had a cause, and that cause was poisons generated in the body.

The eliminative organs of the body can dispose of the normal products of metabolism effectively when not overworked. But no provision has been made for the elimination of many of the destructive substances constantly taken into the body. The kidney cells in different parts of the organ have a selective power. Some eliminate water, others salts and combinations of various elements which the body no longer can use. But there has been no provision made by Nature for disposing of various medicinal metallic poisons, nor for the products of putrefaction and fermentation of the excess of food ma-

terial eaten, nor for tea, coffee, coco-cola, soda water, alcohol, nicotine, condiments and various other things taken in the name of food, but which are foreign to the human organism. It is true that some of these are eliminated, or life would be impossible; but it is at the expense of the cells, and in time disease must result.

The *symptoms* of Bright's disease often are vague. A person may have a moderately well advanced nephritis without being aware that there is anything radically wrong. It may be an examination of the urine in the process of examination for insurance or of the eyes for the reason for failing vision that reveals a kidney involvement. Weakness and loss of appetite are early symptoms in many cases. Among other symptoms are headaches and dizziness—and upon examination the high blood pressure may be found. There is a loss of weight in many cases. A puffiness under the eyes, especially upon arising is common, also swelling of the ankles and other parts of the body. The breath becomes short and the energy is quickly expended upon exertion. The skin becomes pale and sallow, dry and rough. Albumen is present in the urine, also casts and kidney cells, revealing kidney destruction has taken place. In some cases however albumen and casts may not be present. The specific gravity of the urine usually is low.

Insomnia, mental disease and coldness of the extremities gradually develop, also nosebleed and perhaps other hemorrhage. The eyesight gradually or quite suddenly fails. If there is any accompanying involvement of the heart this organ sooner or later begins to cause trouble. Anemia develops, both hemoglobin and blood cells being reduced and the blood deteriorates.

It is only in comparatively late stages of this disease that some of these more grave symptoms will develop. If steps are

taken at once to save the remaining part of the kidney one may live a reasonably long life, but unless this protection of the kidneys is given the condition must progress.

*Treatment.* In the treatment of Bright's disease it is absolutely necessary that the waste products which must be eliminated through the kidneys are kept down in quantity as much as possible, also kept well diluted. This is a condition in which a limited fruit diet followed by the milk diet is of particular value. The fast may continue for from five to fifteen days, depending upon weight, strength and energy. It is particularly of value if there is a dropsical condition. Thirst should be satisfied and in any case at least a quart of water taken daily, but it is not necessary that the person drink large quantities of water. Instead of the absolute fast, fruit juice may be used with great value. From six to ten oranges or the equivalent in some other fresh fruit juice, unsweetened, may be used daily. The enema should be used every day of the fast or fruit diet, from one to two quarts of tepid water being injected and expelled immediately.

Even in the medical treatment of Bright's disease the milk diet has come to hold first place in the dietetic treatment. For this disease this is the best of all diets for satisfactory results and it is the most important of all the health factors. Milk will provide every element for repair that the body requires, the various food elements are properly balanced, the wastes do not undergo putrefaction or fermentation, the diet is alkaline in its effect upon the blood, and a considerable quantity of fluid is provided to satisfactorily dilute the waste products.

Many persons are under the impression that considerable quantity of milk (or other fluid) is injurious in cases of kidney disease because of the "extra work" they consider thrown upon the kidneys, as shown by the frequent urination when

on the milk diet (or on much fluid). This does not produce any work upon the kidneys, because the kidney cells do not function in the way, for instance, that those in the liver laboratory function. The kidneys are more like filters, hence the fluid passed out on the milk diet in considerable quantities saves the kidneys rather than acting as a stress to them, by keeping the acids, poisons, wastes and other toxins in such dilution that they are not irritating.

If there is a serious involvement it sometimes is beneficial for the patient to go to bed. Ordinarily this is not necessary. However, it is highly inadvisable that a person with Bright's disease undergo much physical exertion, for the reason that this adds to the irritants that must pass through the kidneys.

As to the quantity of milk on the milk diet, one should begin with small amounts and work up slowly, to less than the usually considered "full quantity." Half a glass of milk every two hours may be taken the first day; three-fourths of a glass every two hours the second day; a glass every two hours the third day; a glass every hour and a half the fourth day; a glass every hour the fifth day, and this quantity continued daily for a week or more if the weight is not being lost too rapidly. The juice of an orange or two should be taken before beginning milk in the morning, and if there is any digestive distress or any symptoms relative to the digestive tract indicating incomplete or delayed digestion of the milk it is well to use a few drops of lemon juice immediately before or with or immediately after each glass of milk, or at least with every second glass of milk during the day. If the interstitial type of nephritis is involved, then three quarts of milk perhaps will be the maximum quantity that can be taken; if the parenchymatous type the quantity of milk may be increased after the week or so to one glass every forty-five minutes. The drinking period each day is twelve hours—

say from seven-thirty in the morning to seven-thirty at night.

If the bowels do not function regularly daily on this diet, an enema should be used each day.

It is important that the skin be permitted or aided to function normally. If considerable water is drunk or when the milk diet is used, the sweat bath may be employed, once or twice a week for two or three weeks at least, if there are no conditions or complications which contraindicate it. Instead of a sweat-bath a warm or moderately hot bath may be taken for five or ten minutes followed by a cool bath with moderate friction during the bath and upon drying. Massage is of benefit, and if the patient is unable to walk about to any appreciable extent both massage and passive movements by an attendant may be employed.

There must be plenty of relaxation, rest and sleep, but one should not lie around continuously if there is no condition demanding it. Gradually after improvement is noted the patient may take up gradually increasing amounts of walking and other activity, carefully watching the effect. So far as possible the exercise should be out of doors. In any case it is necessary that one have fresh air in abundance and one should practice deep breathing.

Worry and all other depressing emotions must give way to calmness and complacency.

The treatment outlined will do all that can be done to spare the kidney further destruction. New kidneys cannot be created and kidneys once diseased structurally will remain less than perfect kidneys. But the remaining portion of the kidneys can be permitted to continue functioning for many years and at the same time their possessor can enjoy life—but no high life. It may be necessary to repeat the fast and to return to the milk diet frequently. The diet between milk diet periods should contain a considerable amount of milk,

an abundance of fruits and vegetables and moderate amounts of whole grain cereals, with none of the detrimental foods and near-foods already mentioned. The kidneys in the body are the only ones that will ever be there. It pays to be as good to them as possible.

*Kidney stones.* A condition often resulting in as extreme agony as a human being will ever suffer is kidney stones or renal calculus. These are concretions or accumulations of certain of the mineral elements present in excess in food or improperly eliminated.

Sometimes there appears in the urine gravel or very small stones. Where these continue to pass, serious immediate trouble is not likely to develop, but their appearance usually is a warning of the formation of larger stones or of the likelihood of larger stones developing. Often even with small stones or gravel there will appear in the urine mucus and pus as well as a sand-like deposit in the urine left standing. A characteristic indication of the development of gravel in the kidney is an irritation of the urinary passage, with marked irritability after urination.

Sometimes stones develop to such large size that they fill the whole pelvis of the kidney. But whether or not they develop to this great size they frequently develop too large to pass through the ureter from the kidney to the bladder. Their tendency is to steadily increase in size. It is when a stone is just of a size to enter the ureter and its passage begins downward to the bladder that *renal colic* develops. Sometimes it becomes impacted at the beginning or somewhere along the course of the ureter, in which case there results a considerable or extreme distension of the kidney pelvis with the urine that can not pass from the kidney down the ureter to the bladder.

*Renal colic* is an excruciating pain appearing far back in

the abdomen or in the small of the back and down the groin to the genital region. Associated with its development are fever, nausea and vomiting, cold sweats and difficulty of urination; unconsciousness may result from repeated agonizing spasms of pain. The pain results from the rough surfaces of the stone distending and irritating the ureter while passing down the canal of the ureter. When the stone completes its passage the severe pains disappear, but there linger mild degrees of pain or discomfort and perhaps some degree of blood in the urine. Since these stones often do not develop singly, there may be recurring attacks of the renal colic. If the stone is of considerable size the amount of blood lost through the urine may be considerable.

*Treatment.* It is far easier to prevent the formation and recurrence of stones than it is to relieve renal colic once it develops. Often this is one of the few legitimate reasons for using morphine or other drugs of this character, for the relief of the excruciating pain, particularly in nervous and high-strung individuals. Naturally, if the drug can be avoided, the patient will feel better after the stone has been expelled than where such drugs are used. Hot packs to the abdomen often produce relief sufficient to enable the person to endure the remaining passage of the stone. Hot packs or packs kept hot by an electrical heating pad or hot-water bottles or sand-bags, completely encircling the trunk for a width of a foot or more, may have far better results than local packs because of the more complete relaxation.

Distilled water or rain water should be taken in considerable amounts, and usually it should be decidedly hot. Whether or not such large amounts of fluid are taken during the colic, these should be taken at its termination, in order to help clear out any gravel or small stones that may linger in the pelvis of the kidney. In any case water freely taken will

dilute the urine and make it less irritating to the irritated or inflamed surface of the ureter.

As important as relief may be during the colic, of greater importance are the living habits before and afterward in order to prevent the initial development or the recurrence of the stones. The very fact that stones develop shows that either there has been overeating or wrong eating, insufficient water drinking, or defective elimination, or failure properly to utilize minerals and dispose of any excess. To prevent recurrence and to build health to the highest degree, a milk diet should be followed when possible. This will cause a considerable frequency of urination of weakly concentrated urine while at the same time providing elements that will permit rebuilding and repair of the damaged kidney structure and ureter. If this diet is not followed, considerable milk should be taken in a diet consisting otherwise practically wholly of vegetables and fruit for a considerable time at least.

A small amount of whole grain cereals may be used, but there should be very little protein aside from milk and that contained in the cereals, and no starches except that in the foods mentioned. Salt should be avoided, together with other spices and condiments. No more food should be taken than is actually required to maintain the body in its various functions and to maintain weight, strength and energy. Considerable water should be taken regularly every day. If one is overweight, it is advisable to reduce to more nearly normal. If one is underweight, care should be taken that weight is gained slowly.

The skin should be aided in natural functions, as the skin and kidneys work together. The daily cold or cool bath followed by good friction is advisable where the vitality and nervous energy permit, otherwise a tepid bath with friction. Sun- and air-baths are valuable also. One should secure

moderate physical exercise after recovering completely from the passage of the stones. To exercise too vigorously will tend to concentrate the urine, which is undesired. One should use constitutional exercises rather than muscle-building or strength-building exercises. There should be adequate relaxation and sleep.

There is little reason for a person developing any infection resulting from the passage of kidney stones, but unless the general toxemia is reduced infection is possible. This may ascend to the kidneys and produce serious trouble, or it may affect the bladder and result almost as seriously. If one follows the suggestions given above there will be no disastrous or harmful immediate effects following the passage of the stones, and the general health will not need to suffer.

### THE LIVER IN HEALTH AND DISEASE

Like any other organ of the body, the liver is balked in performing its normal duties through dietetic errors in the main, though any factors of living that produce a general toxemia will have a direct or indirect modifying or disturbing effect upon this organ. The liver is subject to different types of disorders, but whatever may be the disease or the part of the liver involved, wrong habits of living usually have produced the trouble. Acute diseases of the organ are not to be considered in this chapter, and only the common ones will receive attention.

Cancer of the liver is the most serious affection of this organ. Once this condition develops it is unlikely that any treatment will spare the patient. I believe there is no doubt that it can be prevented, but a cure of such a deep-seated ailment is another thing.

*Cirrhosis of the liver* is a condition in which the cells of this organ are dried up or hardened. The usual cause is

alcohol. However, it is known to a very insignificant number of us that vinegar will cause this "gin-drinker's liver" twice as rapidly as will gin itself. Many persons consume vinegar and pickled foods as a part of their daily diet and may develop an atrophied liver without ever tasting an alcoholic beverage. Nevertheless, gin and other alcoholic beverages do frequently cause it. The entire liver shrinks in this disease, and this decrease in size is readily detected by a physician. There usually are biliousness and jaundice, frequently an ascites or dropsical condition of the abdomen, and gastric and intestinal catarrh; also a dry skin, failure of appetite and vomiting, sometimes including blood. Some degree of fever develops, and delirium and coma may attend the final stages.

*A "hob-nail" liver* results from this cirrhotic shriveling of the liver, and when the liver is examined out of the body it is found to be covered with small flat protuberances, resembling the heads of hob-nails, which give rise to its name. The symptoms, correction and treatment are the same as for cirrhosis.

*Fatty degeneration of the liver* is a condition in which some of its cells are replaced by fat-cells. Among the symptoms are loss of appetite, vomiting, pain in the region of the liver, very light-colored stools and a generally fat condition. The over-consumption of sugar and sugar-forming foods (starches) is a frequent cause or contributing factor.

*Treatment.* The chronic conditions of the liver briefly described above cannot be completely "cured" or eradicated. Still, as with the kidneys, the liver can be aided in its function so that it can continue to perform sufficient of its duties that life can be continued for a considerable length of time. If any acute symptoms involving the liver directly or indirectly develop, it usually is possible to prevent the develop-

ment of chronic liver disease; and if we were always careful to give the liver no more work than it can handle with ease this organ would not fail us.

The complete fast should be used in all of these cases, for this is the quickest possible way in which the blood and the liver can be unburdened and in which normal functioning can be re-established, in some measure at least. There should be an abundance of water taken during the fast, preferably hot water and with the juice of one lemon to each quart of water. This is an excellent means of flushing the liver and is not likely to be overdone. The daily enema of two quarts of warm water should be used. Heat may be applied over the liver area with benefit, if continued for an hour or more daily. This may be employed by any heat lamp, electric heat pad or hot packs. Instead of or following this heat treatment a cold abdominal girdle may be applied, amply covered with dry flannel to insure quick reaction to warmth.

The fast should be terminated by the fruit diet, which should be continued for several days if conditions permit. The fast itself may continue for from one to two weeks or even longer.

The milk diet with fruit juice would be very desirable to follow the fruit diet, but in these diseases it is better to use skim sweet milk or sour milk from which cream has been removed. It may be possible to work up gradually to five or six quarts of milk daily. If the milk diet cannot be taken, then a diet mainly of raw foods should be used, comprised practically wholly of fruits and vegetables and milk without cream.

Only limited amounts of any starch food or of fats should be taken. However, almonds and ripe olives may be added to the diet. Considerable water should be taken regularly between meals. Overeating should be strictly avoided.

It is better to have less than is actually required than more, at least for some time.

The sitz-bath is very beneficial in liver disorders also. The alternate hot and cold sitz-bath may be taken daily for two or three weeks with benefit.

Fresh air is necessary in abundance day and night. Massage and spinal therapy may be of appreciable benefit. Nude air-baths, short sun-baths, dry-friction baths, electric light baths all will prove of decided benefit. Care must be taken not to chill the body, but otherwise one should take air-baths frequently and develop the ability to react favorably from cool baths.

## LOW BLOOD PRESSURE AND HEALTH

Many persons have heard considerable about blood pressure and yet do not know what this term really means. By blood pressure is meant the pressure or tension in the arteries, which depends upon several factors: the beat of the heart, the condition of the blood-vessel walls, the amount of blood in the vessels, and the general tissue tone.

Blood pressure usually is recorded by one figure over another, resembling a fraction, such as  $120/80$ . This is not a fraction. The upper figure represents the systolic pressure, in other words the pressure in the vessel at the time of maximum increase in blood at the time of a heart-beat. The lower figure represents the diastolic pressure and indicates the pressure in the arteries during heart relaxation, between one heart-beat and the next.

Blood pressure is taken by a device called a sphygmomanometer. The original device and the device used to a great extent today is a cloth-enclosed rubber band which encircles the arm, from which two hollow rubber tubes lead, one going to a bulb and the other to a box containing a column of

mercury with a reservoir in the bottom. When the band is applied about the arm and the tubes properly attached to the bulb and the mercury column, the physician repeatedly presses the bulb until the artery in the arm is sufficiently compressed to obliterate the pulse in the wrist.

Formerly only the systolic pressure was taken, but now both pressures are taken. The systolic pressure was taken and easily may be taken by the finger of the physician on the wrist. But to secure both blood pressures the physician now uses the stethoscope, which is placed just below the bend of the elbow on the fore-arm. After obliterating the pulse, with the stethoscope in place, the valve on the bulb is released slowly until through the stethoscope are heard the first sounds coinciding with the heart-beats. When the bulb has been compressed the column of mercury has risen in the glass tube, and as it descends upon releasing the valve, observation is made at the point the mercury has reached when the first sounds are heard. At the side of the glass tube are markings two millimeters apart, and the systolic pressure is read in millimeters according to the point reached by the mercury. Then the valve is further opened to release pressure, and the column of mercury descends. At the point where sounds again fade out, the point where the mercury stops is read as the diastolic pressure.

Another device frequently used now is a dial instead of the column of mercury. This dial is calibrated to correspond to the millimeters on the mercury column. The use of the mercury column, however, gave rise to a term which is used whether the mercury column or the dial sphygmomanometer is used—that is, “millimeters of mercury.”

The normal systolic blood pressure ranges from 100 to 150 mm. (millimeters of mercury). Formerly it was considered normal for men to have a blood pressure of 100 plus the

age, and women 90 plus the age. This will not hold above the age of 40, and even at 75 to 85 years of age it would be better to have a blood pressure of not over 135 or 140. There is less wear and tear upon the heart and blood-vessels, nervous energy and general vitality where a blood pressure of early adult life is maintained throughout the remainder of life.

High blood pressure, or hypertension, is discussed earlier in this book, and in this section is considered suitable treatment for most cases of high blood pressure. Arteriosclerosis, or hardening of the arteries, is one of the more serious results of hypertension.

A low blood pressure, or hypotension, may result from one of several conditions, though as a rule a moderately low blood pressure need be given no consideration. Causes of low blood pressure are diminished reserved power of circulation; heart weakness; exhaustion of adrenal glands by severe toxemias and infections (as after typhoid fever, influenza and pneumonia, and in tuberculosis and diabetes); chronic tobacco poisoning; operations; from anesthetics and shocks; hemorrhage; anemia; general run-down conditions; malnutrition, and other conditions. Usually when there is a low blood pressure there is less energy; one "plays out" more quickly, the energy being more like that of kindling, which flares up briefly and is soon exhausted.

*Treatment.* The cause of hypotension should be discovered and removed if possible. If it is the result of chronic degeneration of the heart-muscle a great deal of rest is required, though in order to tone up and re-strengthen the heart it will be necessary as soon as possible to take up moderate walking and gradually work into other types of exercise or to more vigorous walking. In most other cases, where the heart is not involved, graduated exercises are permissible from the first, though if more than a slight degree of fatigue

results from the exercise the blood pressure is likely to drop still further. Tonic baths are of considerable benefit, but of course must be adapted to the individual's reactive powers. A tonic bath is any bath below body temperature. The needle bath and light percussion are valuable, and massage is of benefit in all cases.

The former belief was that large quantities of "good substantial food," particularly of meat, were necessary in order to raise the blood pressure. In many cases of low blood pressure there has been hearty eating, with large quantities of meat and other supposed-to-be good food. The majority of cases will do much better if meat is eliminated from the diet or used in very limited quantities and if the diet is made up mainly of large quantities of fruits and green vegetables. Fasting may be employed at the beginning of treatment, but only for a few days, usually a day or two. Instead of the fast a fruit-juice diet is to be preferred, allowing any quantity of fruit juice or juicy fruits desired, at regular meal times or from four to six times a day. Following the fruit fast a strict milk diet for several weeks is one of the best means of overcoming practically all the conditions that may be responsible for the low blood pressure. If this diet is taken the maximum quantity of milk up to five and a half quarts for women and seven quarts for men, should be taken daily, with one or two oranges or a grapefruit daily. Constipation should be avoided by the use of prunes, figs, bran or bran muffins with the milk diet, or by the use of the daily enema—if bowel activity should be sluggish on the milk diet alone.

There must be an abundance of relaxation and sleep, to permit recovery of balance in the nervous system and in the glandular system, but exercise or physical activity is necessary if the condition is to be permanently corrected. Rectal dilation sometimes helps appreciably, also spinal manipu-

lation if there is any undue tension in the spinal muscles or ligaments or if there is any bony impingement of nerves.

Medical authorities declare adrenal substance quite helpful in this condition, because it provides to the body a direct tonic which serves an immediate purpose of favorably influencing the blood pressure, while at the same time serving to provide rest and recovery of the adrenal glands. Usually a combination gland tablet or capsule is better than adrenal substance alone—one containing adrenal and thyroid particularly, with or without gonad substance. While the blood pressure may not be raised rapidly (and in fact it usually does not increase as rapidly as many cases of high blood pressure reduce), yet by a close adherence to the natural treatment as suggested there will be a gradual return to or toward normal.

### **NEURALGIA—NEURITIS—PAINFUL NERVES**

Neuralgia and neuritis often are applied to practically the same condition. The symptoms of the two may be very similar and a distinction between the two may be difficult. I shall attempt to state the difference.

*Neuralgia* is an acute, more or less violent pain along the course of a nerve, more or less spasmotic in nature, induced by some irritation of the controlling center of the nerve and not accompanied by any actual inflammation. Instead of pain there may be a numbness. Neuralgic pains are relieved by pressure. Neuralgia is not a specific disease, but is usually a symptom of some other abnormality. Numerous conditions seemingly act as predisposing or exciting causes. Among these are heredity, anemia, exposure to cold and dampness, injury, infectious fevers, metallic poisons, alcohol, tobacco in any form, gout, diabetes and disorders of the central nervous

system; over-fatigue or worry and mental depression, also any depressing mental emotion may be responsible for its appearance. Tension of spinal muscles and ligaments or spinal subluxations not infrequently cause it. Except when due to direct injury or to spinal lesions resulting from injury the underlying cause of neuralgia is the toxemia resulting from wrong habits of living.

Neuralgic pains may appear in any part of the body, but occur most often in the region of the forehead, face and chest.

The *symptoms* most characteristic of neuralgia include the pain along the course of a sensory nerve that may be involved. Often there is general debility and more or less anemia. People subject to neuralgia usually are the very active type and are in perpetual motion, much of the work being wholly unnecessary, and many of the pleasures such people enjoy usually are of the nerve-destroying kind.

*Neuritis* is an inflammation of a nerve as the "itis" signifies. There may be one, several or many nerves involved. When many nerves are affected the condition is called multiple neuritis.

There is little difference between the causes of neuritis and neuralgia. Toxemia and exhaustion of nervous energy through wrong habits of living are the leading causes of practically all cases except those resulting from some crushing, severing or straining nerve injury or some specific poisoning, such as lead-poisoning. In most of these cases there is a definite starvation for vital mineral elements and vitamins. The condition called beriberi, the chief symptom of which is multiple neuritis, is due chiefly to deficiency of vitamin B. Excessive consumption of alcohol is a frequent cause of neuritis.

The *symptoms* of neuritis are pains, quite similar to those of neuralgia, except more severe because of the inflammation.

Whereas neuralgic pain is relieved by pressure, the pains of neuritis are aggravated by it; and whereas neuralgic pains usually are relieved by heat, neuritic pains are more often relieved by cold. Sciatica is inflammation of the nerve trunk of the thigh; lumbago is neuritis of the nerves in the lumbar or lower back region.

Multiple neuritis (involving a number of nerves) gives rise to pain, numbness, loss of muscular control, but especially of some of the muscles below the elbow and below the knee (causing inability to raise the forearm or the foot in extension), sometimes a muscular atrophy or mental symptoms. It results directly from poisons in the blood, such as those causing many other diseases, and also to such poisonings as lead, arsenic, alcohol, etc. The extremities are the regions most frequently and seriously involved.

In any case of neuralgia or neuritis it is wise, if possible, to discover and remove or overcome any existing cause or causes. It will be necessary in all cases to improve the quality of the blood. This will require eradication of any toxic elements and at the same time, or later, a provision of all of the elements and vitamins. In most of these cases the absolute fast is of benefit, but when there is a general debility the fruit diet as a rule will be better. Either diet may continue as long as general conditions will permit. There should be ample quantities of water taken into the body, by drinking and, if the judgment of one qualified deems this necessary, by the enema.

The strict milk diet will be especially helpful in these cases, particularly in neuralgia. If this diet is not used, then there should be ample amounts, and yet no more than the body requires of milk, fruits, vegetables, whole grain cereals, butter and cream, olive oil or nut oil, and egg yolks. Milk and cottage cheese should form the chief protein. Sweets and

starches should be in the form of sweet fruits and whole grain cereals. Neuralgia cases especially need general as well as local rest—because as a rule they have been over-active. In the case of neuritis local rest of the part is especially indicated; but if there is a general debility or if there is a multiple neuritis or if severe general symptoms also appear there should be general rest. Air-baths and sun-baths are helpful in both conditions. Spinal treatments by the various methods frequently advised in this volume are of great benefit in both neuralgia and neuritis.

Although care must be taken not to use such cold baths as to shock the nervous system severely, cool (tonic) baths should be taken when reaction is satisfactory. The tepid or barely warm bath will be excellent in most cases. If the pain is extreme a decidedly hot bath or a hot local bath or application may be given, particularly in neuralgia. Cool compresses or cool bathing of a local part without drying, in the case of neuritis, will be helpful.

Heat to the local part by fomentations or by the hot-water bag, electric heating pad or other means will give relief in neuralgia, and often in neuritis. Some of these cases respond well by a mild degree of sunburn to the local region. Hot abdominal packs may be given frequently for general favorable effect. When possible there should be moderate exercise which, of course, should be taken regularly but not over strenuously. Care must be taken to avoid those movements and those forms of strenuous physical activity that may tend to aggravate pain.

Neuritics particularly must learn to take life, themselves and their work less seriously. They must learn to relax and let non-essential work go. They must learn how to play and enjoy life. While the pain lasts they may not be able to enjoy life very well, but they will find life becoming less

burdensome if they follow some such program as has been outlined here.

## NEURASTHENIA AND ITS TREATMENT

Many people are almost as much in fear of the word neurasthenia and its meaning as they are of cancer and its meaning. One reason for this is that they have known of one or more people who have had neurasthenia in its most severe form and who have gone from doctor to doctor and still endured the affliction for many months or years. There is no need for this fear regarding neurasthenia.

The term literally means merely loss of nerve strength, but it may mean any degree of reduction of nerve energy and physical strength from the condition slightly below normal to one of nervous prostration or nervous exhaustion. The symptoms of neurasthenia may result from many causes, especially excesses of any kind, perhaps particularly dietetic, also the failure to observe hygienic laws.

Neurasthenia usually develops between early adult life and the age of fifty. Men have it more often than women, though there is no great difference in the two sexes. Apparently many people are born with a more or less unstable nervous system which makes them susceptible to neurasthenia from various causes that would not result in this ailment in many others.

Fears and worries, anxieties, business cares, apprehension, grief or other severe shock, sexual excesses, and certain diseases and their wrong treatment may induce neurasthenia. In almost every instance there has been insufficient physical activity with too much food, or excessive physical activity also with an excess of food. That is, there is no balance between the intake of food and output of energy; also there is no balance between activity and relaxation and sleep. Many

of these cases have burned the candle at both ends. Consumption of protein foods and sugars in excess provides causes of this condition.

The *symptoms* vary a great deal, depending upon the inherent stability of the nervous system, the degree of nervous debility and the induration of the various causes. In the mildest case there is merely a lack of energy and easy fatigue. As the severity of the condition increases or in other cases where the ailment begins fairly severely there will be a wide range of symptoms such as: failure of memory, insomnia, a sense of fullness at the top of the head or as of a band about the head, pain in the back, often in the neck, distension of the abdomen, with a moderate or more pronounced indigestion, constipation, impotence in the male, deficiencies or excessive menstruation, anemia, loss of weight, dread of the future and often fear of some impending physical, mental or financial calamity.

Any one case may have only a few of these symptoms, but some cases seem to have most all of them besides individual ones that they may have heard about, read about or are able to conjure up. Often the symptoms seem to be centered in one or more organ or system of organs, in which case we have, for instance, "sexual neurasthenia," "gastric neurasthenia," etc. Whatever the symptoms may be the patient usually greatly exaggerates their importance.

*Treatment.* Many cases of neurasthenia are difficult to correct for the reason that the affliction is mental as well as physical and it is quite difficult to get the patient into a cheerful or optimistic frame of mind. One of the characteristics of this disorder is to look upon the darkest side of life, to see only the cloud and never its silver lining. Neurasthenics as a rule are despondent and hopeless, and consider their condition incurable. In order to secure the best

results, then, it is necessary that the mental outlook of the patient be altered to a more favorable one and that he be helped to restore his self-confidence and self-esteem.

In addition to this it will be necessary also to begin a program of treatment that will reduce the encumbrance of toxic wastes and that will restore normal nerve and muscle tone. The best results the patient can attain through physical development and activity, the better and the more permanent the results—though many cases have been restored to normal with only comparatively moderate physical activity. Nevertheless this is an important factor in the treatment.

For the correction of the altered condition of the blood, which in large measure has made the condition possible, a short water fast or fruit diet will be of great benefit, though usually these cases have to be under professional observation as they do not readily take to the water fast. As a rule a protracted fast is not necessary, three or four days being sufficient unless there is considerable amount of excess tissue. Even in these cases as well as in others it often is better to have the patient on a diet of fruit or fruit juices. They may have any of the fresh fruits available, or melons or berries, but it is better to have one article only each day. On such a diet the patient may remain for even two or three weeks. A small amount of the fruit or juice should be taken every hour or a somewhat larger amount every two hours. This frequent feeding allays restlessness and at the same time the fruit or juice will serve to improve the blood-chemistry. The natural fruit sugar will serve as a buffer to the nervous system so that the energy will not decline to any appreciable extent—and in fact may steadily increase for many days on this diet.

The milk diet is one of the very best diets a neurasthenic could possibly be on, after a fast or fruit diet. If the weight is normal or below, a quantity of five to six quarts may be

taken daily; if above normal the quantity of milk may be sufficiently low to permit gradual reduction in weight while at the same time providing all of the other elements necessary to support the body and the nervous system. The daily enema may be required on the milk and the preliminary diets, and there should be at least one daily bowel evacuation.

The subsequent diet should include natural foods only—milk, egg yolks, whole grain cereals and all fruits and vegetables. Olive oil may be taken, and nuts may be added also. Since the neurasthenic almost invariably has over-eaten it usually is necessary that the diet be kept down to no more than the body can digest, utilize and dispose of satisfactorily, yet ample to fully nourish the body. There should be at least one large vegetable salad a day, and preferably two vegetable salads, and either a fruit salad or fruit as the main portion of one meal. A very satisfactory way to take the whole grain cereals is in the raw or whole grain form.

Spinal treatment is of great benefit in many of these cases. This may consist of hot packs covering the back and massage of this region; heat lamp treatment down the back and massage; or specific spinal treatment by osteopathy, naprapathy or chiropractic. The hot and cold spinal shower following a general shower—or the percussion hose—may be used also, but care must be taken not to have any treatment too stimulating. Any treatment must be regulated by the condition of the patient, and his individual reactive powers.

As soon as active exercise can be taken this should form a part of the daily program, and should increase in strenuousness as rapidly as is safe. Walking and deep breathing are of especial value. There should be the daily sun-bath when possible, and every day a nude air-bath should be taken. Care must be taken to avoid over-use of hot baths or cold baths. As a rule these cares are better for a time for using the

neutral bath, or slightly warmer for the cleansing bath and slightly cooler for the tonic effect. As soon as possible the patient should graduate to baths at lower and lower temperature until a decidedly cool or cold bath can be taken with prompt reaction. Massage may be employed at any time, but should not be necessary if one is able to take individual exercise.

One should attempt to get into some occupation that is interesting and yet that does not tap the patient's strength too much. Often it is advisable also to have a hobby—one that is quite different in nature from the daily occupation. When possible either the occupation or the hobby or both should be out of doors. Traveling or a change of environment, also sea-bathing, often will be of considerable benefit.

The patient must avoid over-sympathetic associates yet the environment must be cheerful. One must make every effort to develop the right mental attitude toward life and toward every factor of the patient's individual life. In practically every instance there can be a complete recovery to normal. Those who do not recover usually attempt to compromise too much and take only a part of the necessary program. Adopting the proper program and adhering to it is the surest means of overcoming the trouble in the shortest possible time.

## OVERWEIGHT AND ITS REDUCTION

Fat or lean, we today scarcely can avoid the question of overweight. The fashions, the drugstore counters, the magazines and newspapers, the doctors, the billboards and fat and lean people themselves emphasize and impress this subject upon us.

Now while scientists are fiddling with retort and test tubes and lecturing before clinics, and psychologists try to explain

the modern trend of women to conduct regular orgies of reduction, as "psychic contagion," and "mass phenomenon," let us try to get to a practical working basis.

Obesity is not an indication of health, but of ill health—of general poisoning, of reduced functions of every organ of the body except those associated with assimilation. Fat is peculiar in that some people cannot pick up any of it, while others have trouble in dropping it after picking it up all too easily. Each individual has his own average *normal* weight based upon his skeletal frame and his muscles, upon his type as a whole—temperament and all. There is an optimum size of man for greatest convenience, efficiency and health; but, except for the pig there is no animal that gets so far above and beyond its most convenient size as the animal called man.

The poundage above normal may be slight, moderate or excessive. A German writer classified the degrees as: the enviable stage, presenting a pleasing rotundity; the comical or ludicrous stage, the jovial Falstaff type; and the pitiable stage, that of unwieldy deformity. The first stage adds to the beauty and attractiveness of the human form, especially the female form, covering angles and sharp corners, and it is a distinct health asset, especially in early years. It requires careful watching and moderate efforts to prevent the encroachment upon it of the second stage. And the two latter stages are tragic and harmful so far as health and life expectancy are concerned, and require definite efforts, without compromise, toward reduction.

Many fat persons, especially those who have fought obesity unsuccessfully, try to shoulder responsibility for the condition upon somebody or something else than that of which they have direct control. Heredity is blamed, or an unusually vigorous digestion and assimilation; or a reduced rate of com-

bustion, which no one is able to account for; or abnormal functioning of some of the glands of internal secretion (thyroid, pituitary, sexual).

The principal cause of obesity, however, is the intake of food in excess of the body requirements, in excess of energy output—too much food and too little exercise. Unless one takes into his body more food than it requires in any of the above-mentioned conditions and leads an indolent life or at most secures insufficient open-air activity, there can be no gradual gain in oleaginous excess. This puts the production and the reduction of one's corpulence directly up to the individual himself, where it belongs, except in those early cases which show some developmental defects and do not come under the subject of simple obesity. They are not common.

It is not natural to gain weight as one grows older. At fifty one should weigh no more than one did at twenty-five, if one had reached normal weight at twenty-five. One grows heavier as one grows older merely because one takes life easier and indulges his appetites.

But whether older or younger, if one puts on weight one becomes progressively less inclined to physical activity. This helps one to put on more weight, which makes one still lazier. Thus a circle is established that leads sometimes to mammoth proportions and that cuts one's physical and mental efficiency and will power in half. Because there are no symptoms associated with the early gain, little or no thought is given to it. Frequently it is only after great abnormalities have been created in girth and functional or organic disturbances, that the fat is taken seriously and efforts made to cut some of it from the frame. For obesity is more perilous than even airplane travel.

In the swinging of the pendulum, however, we find large

numbers who are now much below their individual weight, from misapplied reducing methods. This is not so much the result of reducing measures employed to take off fat after its development. The modern girl has employed effective means of keeping the weight from accumulating so that it does not have to be taken off. From being merely supple she has become actually anemic and malnourished. The extreme thinness of the modern girl does not indicate health, by any means. The modiste is chiefly responsible for the recent trend toward unattractive, unhealthy thinness. The ideal stage is a normally rounded figure, instead of the angular one we have seen so frequently in recent years.

In the *treatment* of obesity there is no short cut. There are some agencies designed to rub fat off, some to squeeze it out, some to sweat it out, others to wash it away, and so on. The reason these have become popular is that they may permit the person to satisfy his palate as much as he desires and to avoid physical exertion. But they do not reduce fat—unless they so disrupt the digestive mechanism that one cannot digest and assimilate the food consumed. The only curatives of any value in obesity are certain gland preparations which are indicated in more or less definite gland obesities. These should be prescribed by a qualified physician under careful supervision or serious harm may result.

The aim to be sought in bringing about reduction should be not merely to take off several or many pounds and to increase oxidation, but to build the body chemistry and restore tone of nerves and muscles. It is necessary to bring about depletion, but this must not be done at the expense of nutrition. A more pleasing figure is not the sole aim; greater energy and vitality should be secured at the same time. Even a child knows that if one does not take food into the body there must be a loss of weight. One must balance his diet,

then—somewhere between no food and too much food, though total abstinence from food for short periods of time will have a very favorable effect.

The absolute fast is not to be advised for pronounced obesity without proper supervision. It is not necessary, however, to fast long enough to endanger one's health, to quite favorably effect the elimination, metabolism and other functions involved. A plan that deteriorates vitality in any degree, or one that brings the weight down but does not help to keep it there is of no practical value and had better be left alone. Hence, even though the fast is taken there must be suitable diet following if the good results secured are to be maintained.

The best method of pursuing a fast is for three or four days at intervals of two weeks or so, and then to eat only such small quantities of all classes of foods between fasting periods that there will be a still further gradual reduction.

Another excellent fasting plan is to fast on alternate days, or fast one day out of three. If there is sufficient energy, red blood cells and hemoglobin, and high or normal blood pressure one easily may fast for a week or ten days—provided he has the will power. In most cases a fast of this duration can be continued without medical supervision.

Of course, if one consumes large quantities of food after the fast one will regain weight, and perhaps suffer still worse effects. But if all classes of foods are consumed in small quantities, with fats cut to a minimum or probably entirely eliminated, the body will be amply nourished and there need be no further gain—if there be the exercise that there should be for best general health. Many people do better by taking one half dozen oranges a day or two or three grapefruits with no other food. They may be able to keep on this diet for a much longer period of time, and with safety, than they can on the water fast. The reduction is not quite so rapid, when

a limited amount of food is taken, but one can be assured that he is "playing safe."

Another good plan is to reduce the number of meals taken daily. The one-meal plan is excellent, though this one meal must be no larger than any one of the meals formerly taken. Reduction of fattening elements should be observed in this one meal if best results are to be secured. Two meals may be taken, in which case the amount chosen for the two meals should be little more than that for the one meal, unless there is less overweight or less vitality. After the weight has been reduced appreciably by any of the above diets the two-meal plan may be followed with continued good results.

Perhaps the majority will prefer to continue on their three-meal plan. So far as general health preservation is concerned this is a safe method, and there is not likely to be any tendency toward "starvation" if proper foods are used. I mention this because there are many who still believe that one cannot fast or take a greatly reduced diet without endangering the health. But the three-meal plan is not so effective as a reducing measure, for the average person cannot or will not control his appetite sufficiently to eat three meals a day and still eat little enough to lose weight.

It is best for these to eat alone and to have set out just what is to be eaten—this amount being well selected from meal to meal to give variety and all needed elements for a protracted course of dieting. This plan will require several months, if one is thirty or more per cent above normal, to bring the weight to normal.

Many conjure up visions of starvation diets, untasty dishes, and monotony when "dieting" is mentioned. When a person becomes emaciated by the ingestion of non-nourishing foods and then adopts a diet of vital foods so that his body regains its weight and quota of red blood cells and hemoglobin, he

is *dieting*, but certainly he is not being starved, and most likely is enjoying his diet thoroughly. Thus it is with the obese. The foods to be permitted may be more tasty, more nourishing than the foods previously consumed; it is merely that certain foods are omitted from the diet and the quantity somewhat reduced. For a time one may possibly notice a disturbing hunger, but this is the result of habit. This will quickly give way to perfect satisfaction on the reduced rations.

Since fat has nine times the fattening effects of starches, fat must be especially reduced; but sugars and starches likewise should be reduced appreciably, and other foods to some extent. If the diet is low in general an occasional starch food, especially potato, may be allowed. It is impossible to select a wide range of foods in which fat and some fattening elements are completely absent. The requirements, then, are merely to select foods with less fattening elements, to reduce the quantities of all foods, and to reduce the variety at each meal. It is the temptations of variety that lead to overeating and that cause one to become hungry before meal-time and ravenous by meal-time.

Here I give briefly the constituents of the three meals, and any housewife may select various similar foods for different days to avoid monotony. If one eats in a restaurant or boarding house, at least some of these foods will be available, and what are not must of course be left out, thus helping to bring about more rapid reduction.

The breakfast should be of fresh fruit only, using any one preferred, including citrus fruits, berries, melons, tomatoes, apples or grapes. These are not to be sweetened. Or there may be added to the list acid fruits and berries, a slice or two of toasted whole wheat bread or rye bread or shredded wheat biscuit; or an egg or two (not fried) occasionally when it is desired to omit one of the other meals. A glass of milk, whole

or skimmed or buttermilk, if desired, or of half milk and half water may be taken at the end of this meal.

The noon-day meal may include one cooked vegetable, one or more salad vegetables and some form of protein (meat, fowl, fish or cottage cheese), with a fruit dessert, unsweetened. Instead, this meal may be entirely of green vegetables, cooked or raw or both; or of fresh fruits, melons or berries; or a meat or other protein and all the salad vegetables desired.

The evening meal may be of clear non-starchy vegetable soup, with toast or dry bread, cooked and raw vegetables, protein if desired, and a fruit dessert. The vegetables must be mainly non-starchy. A better meal for at least half the week would be a simple protein, raw salad, non-starchy vegetables, and berries or fruit for dessert. Those trying to reduce should not use soups frequently.

It should not be forgotten that there should be a fasting day occasionally, and days on which only one or two meals are used instead of three. At any time desired a meal may be supplanted by fruit or melon or green vegetables alone or a glass of milk or buttermilk. By using more of the green vegetables, especially in salad form, one will feel quite satisfied, because these are filling. Most of the green vegetables that are taken cooked and green vegetable soups have the same filling effect; but rich purées should be avoided or taken practically alone. The more one masticates the food the more quickly will one become satisfied at meal time, and the less food will be required—both to appease hunger and to satisfy the bodily needs. This is of much value when one desires to eat as much as may be desired and still reduce.

A diet that is beneficial for reducing and that is quite filling, and at the same time that supplies the protective elements is one of milk and bananas. One may take a quart or two of any form of sweet or sour milk a day and from four to

six ripe bananas, with no other food. These may be divided into two or three meals or taken at two or three hour intervals throughout the day.

While strenuous exercise may not be advisable because of some functional or organic condition, it is absolutely necessary to exercise somewhat if best reducing results are to be secured. One value of exercise is that it uses more food or stored fats for energy; also it develops harder muscles, and fat does not adhere or develop so much over hard muscles as over flabby ones.

Hiking, hill-climbing, and swimming especially are valuable, tennis also. Indoor exercises should be taken for thirty minutes once a day at first (with pauses for deep breathing), and later twice a day. These should include body-bending and body-doublings, squatting, leg-raising and various other leg movements while reclining, such as swaying the legs from side to side, touching the toes back of the head, and doing the inverted bicycle-riding motions. If the fat is accumulated in certain regions more noticeably than in others these parts may be exercised more vigorously or more often or for a longer time than other parts. There will be a somewhat more pronounced reduction over these parts receiving special exercise, though one should not expect to mould the body into the shape desired wholly by exercising the larger parts.

General exercises should not be neglected, for by these the heart and the lungs are exercised more directly than by use of smaller groups of muscles or those of restricted regions.

To consider sweat-baths for reducing, the one and only way fat can be gotten out of the body is by having it burned up, or oxidized. As a result the residue passes out of the body as carbon-dioxide, through the lungs, and as water through all of the eliminative channels. Practically all that one loses in sweat-baths is water, and even if one should lose two

pounds or more in an electric-cabinet or steam-cabinet bath or blanket-pack or by other means within a short time, this will be replaced quickly if water is drunk or if other fluid is taken. If one does not take fluid and continues to employ the sweat-baths there will be a dehydration, which will induce toxemia, because the cells of the body require a proper amount of fluid in order to eliminate effectively their waste products.

Cold baths are much better for reducing than are hot baths. When a cold bath is taken a reaction is necessary to provide warmth, and this warmth is created by the combustion of food stored up as fat. In this way the fat necessarily reduces; and if cold baths are taken daily, and especially if there are exercises following the bath to hasten the reaction, there will be a genuine loss of fat and not merely a loss of weight through disappearance of water. This is one reason why swimming is excellent for reducing when the diet is controlled: there is the reducing effect of the cold water and of the reaction necessary, and also of the exercise of swimming.

The rapidity with which one may reduce may depend upon several factors, such as type of fat and amount of overweight. Ordinarily a loss of two pounds a week is sufficient, though less rapid reduction than this is permissible when but slightly overweight; and up to three or four pounds a week may be lost without physical harm when the fat is considerable and of the flabby sort. If one is under supervision, it may be possible to lose even ten to fifteen pounds the first week, but when the reduction is done on one's own initiative it is much better to reduce more slowly. Even two pounds a week continued for three months will bring the weight down twenty-five pounds, and this will be at no expense of bodily energies.

If women not too excessively heavy get down to normal weight (about two pounds for each inch of stature) within six months or more they have reduced rapidly enough and safely enough. If one comes to a standstill before the weight is down to that desired, it may be reduction on the same diet may occur within a few days; if not, one should omit a meal or a day of meals, or lower the quantity at one or more meals, or continue the same quantity of food while exercising more strenuously.

The weight is not likely to reduce as rapidly after the first or second week, but the amount of food and the amount of exercise may be governed by the progress made. As a rule the diet will have to be somewhat reduced or exercise taken more strenuously as time progresses to accomplish the same rate of reduction—for the reason that progressively the remaining fat is more solid.

One should weigh oneself about once a week. Daily fluctuations in weight may be too discouraging or too encouraging if the weight is taken daily. If one attends a gymnasium regularly or has one's own bathroom scales, this frequent weighing will be easy. If neither of these is available then select a good scales in some shop and weigh regularly at the same time of the day weekly, and wearing as nearly as possible the same clothes.

Other requirements for reducing are relaxation and bathing. Most fat people have rested and relaxed quite regularly but when they find their weight going down and their energies going up by the proper methods they may overdo their activity and frazzle the nerves by insufficient rest, or overwork the heart. This must be avoided by having regular and adequate periods and allowance of time for the sleep and relaxation.

As to bathing, if one bathes daily in cold water there will

not be need for frequent soap cleansing baths, but a quick tepid soap bath may be taken as often as required. Friction baths will help maintain surface cleanliness, at the same time helping to reduce by the massage effect and the exercise involved, and will aid in maintaining adequate bowel cleanliness also. The foods suggested and the exercises that should be taken will maintain normal bowel activity. One may use bran moderately to aid the bowels, this being also a good filler; but care must be taken not to use this excessively or it will ultimately result in diminishing of the intestinal responses, with consequent constipation.

There is no shortcut to reducing by the use of drugs that is safe and sane. Among types of "reducers" there are some that claim to wash away fat—or one is led to believe that they do. Of others it is said that, when they are used on certain overweight parts, then presto! the part dwindles to sylph-like proportions! But such parts will not reduce in this manner.

Some of these have ingredients that produce floating flocculent masses on the bath water which the gullible public is misinformed is fat that has come off or out of the body! Various salts and other medical substances are used in soaps, bath powders and lotions to "wash" the fat away. Either the sweating of the hot bath or the massage or rubbing associated with it may have some slight reducing effect, but it is only temporary even then.

While the advertisements of these and of the internal anti-fat remedies claim that dieting and exercise are not necessary, yet in instructions accompanying these reducers, *natural* weight-reducing factors frequently are stressed; and usually it is these that produce whatever results are secured. One must get on the proper program of eating, exercising, bathing, relaxing and sleeping, and must stick to this program,

and through it all maintain a cheerful, hopeful attitude. For the results are bound to be gratifying if one pursues this program with persistence.

### PARALYSIS—"STROKES" AND THEIR EFFECTS

Paralysis is a loss of voluntary muscular control, due to an abnormal condition of the nerves or nerve-centers which control the affected muscles. The nervous effect may originate either in the brain or the spinal cord, unless it results from severing or inflammation of the nerves. Since the nervous tissue is the most delicate tissue of the body and the most highly organized, a definite cure of paralysis is difficult. There are various forms of paralysis, some of which can not be considered here.

One of the most common forms of paralysis is that resulting from a stroke of apoplexy. This commonly is called a *paralytic stroke*. This form usually is not preceded by any definite warning, though in some cases there have been tingling or more or less numbness in the extremities, headache, dizziness, frequent and severe nosebleed or other symptoms. A hemorrhage results from the rupture of a weakened artery in the brain. The paralysis is due to damage to the motor centers of the brain resulting from the pressure or definite injury created by a hemorrhage.

*Paralysis agitans* or shaking palsy is one form of paralysis. It usually comes on toward advanced age, or between fifty and sixty years of age. It occurs in males about twice as often as in females. The leading causes are thought to be a too long-continued drive of the mental or physical organism, with insufficient relaxation, or continuous mental occupation without physical activity. Anxiety and worrying and exposure to wet and cold may be exciting causes. The onset is gradual.

The first symptom usually is a trembling of the hands and a loss of control of the arms. A peculiarity of the finger trembling is a "pill-rolling" movement—a circular movement of the opposed tips of the thumb and index and second finger. In time there is a similar loss of nervous control throughout the body. The erect position becomes difficult, and the patient adopts a crouching, trembling attitude, the head bent forward and the back curved and rigid. It becomes increasingly difficult to walk except in a straight line. If necessary to turn the body some form of temporary support is needed. The sufferer begins to walk slowly, but once started has difficulty in stopping. A hurried shuffling gait results.

The motions are intensified when a conscious move is attempted. The knees often vibrate up and down when seated unless the feet are planted firmly on the floor. This trembling in time becomes practically intolerable, as it is present during the entire waking hours. Often the head trembles in a similar manner, shaking continuously.

*Treatment.* Since there is no specific treatment for paralysis, practically all forms are treated similarly. It is necessary to increase the vitality, to stimulate and tone up the nerve-centers of the spine, to improve circulation in general and especially of the affected parts and to improve general metabolism.

The absolute fast may be used in these cases for from two to ten days, depending upon the general condition. It should be short if the vitality and weight are below normal; otherwise the longer fast may be taken. It is advisable to use a milk diet in most of these cases after the fast—or after a fruit diet if the fast is not taken. One may use enough milk to gain weight very slowly if below normal, or little enough to maintain weight at normal or even to permit a loss of weight if desirable. From two or three to four quarts daily will be

the usual quantity. Care must be taken not to take enough milk to increase blood pressure from the presence of additional fluid in the circulation. The enema may be required daily. It may be advisable to repeat the fast or fruit diet and the milk diet for several periods, continuing each milk diet period for from four to eight weeks.

Spinal therapy is of considerable value in these cases. This may take the form of any suitable means of application of heat or of massage or specific manipulation, or of both heat, the massage or manipulation.

This is a condition in which some form of electricity is used to advantage. The sinusoidal treatment is particularly beneficial. It helps the muscles automatically to tense or contract, thus assisting in maintaining or restoring muscle-tone and in reviving dormant nerve-tone.

If the condition permits of the exercise, walking should be taken each day until slight fatigue develops. Care must be taken to avoid pronounced fatigue. Exercise is more important in this affliction than in many other abnormal conditions. Some excellent type of exercise is required to retrain the nerves and muscles. This is particularly applicable in a paralysis resulting from apoplexy. Frequently the suggestions that follow may be found of value.

One should have lines on the floor up and down which one may walk, aiming to center the foot over the line at each step; or one may have various spots on the floor to which the heel or toe may be touched while seated and while standing; one may have tenpins or milk bottles or books in a row in front of one while seated or standing holding to some support. These objects are to be touched or pushed over in order, and in regular skipping order (each alternate object or each third object, and so on); one may have the outline of a shoe sole marked on steps, the feet to be placed definitely over

these in mounting the stairs. There should be a hand rail within reach to insure safety in this exercise.

Sunlight treatments, natural or artificial, and infra-red or radiant light treatment may be employed, also the neutral or moderately warm prolonged tub-bath. Or, after three months or so following a paralytic stroke, some form of sweat-bath, provided a cold wet turban is about the head and a cold pack about the throat.

It is impossible to predetermine the amount of improvement that will take place in any case of paralysis. Great relief has been attained within a comparatively short time in many cases, after which no further improvement may have been secured. Sometimes the only benefit from treatment will be a checking of the progress of the paralysis. In other cases there has been complete recovery. If there are any means whereby paralysis can be cured these should be those natural means which have been enumerated.

It should be added that there should be a cheerful environment, and the patient should have part of the time lightly occupied mentally. All excitement must be avoided; there must be plenty of relaxation and rest, care should be exercised to keep the skin normally active, and every other feature designed to improve the general health must be looked after.

### RHEUMATISM—ITS CAUSES AND SYMPTOMS

What is meant by the term "rheumatism"? The men of medicine have not yet definitely decided just what constitutes rheumatism—just where rheumatism begins and where it leaves off—just when the condition is rheumatism and when it is not. Modern health-seekers, as well as physicians, tend toward distinguishing other ailments from specific rheumatism. Among these disorders are arthritis in various

forms, neuralgia and neuritis. These are discussed in detail elsewhere in this chapter.

Among the true rheumatisms are acute rheumatic fever and chronic rheumatism, the latter being now quite frequently called polyarthritis because several or many joints may be involved at once; the chronic types also include rheumatoid arthritis or arthritis deformans. But these two names are really descriptive of different conditions—the former meaning a chronic rheumatism of a severe degree, but with little or no deformity yet developed, the latter meaning a more severe chronic degree with deformity.

Since the acute form is not frequent, and the symptoms so severe as to make the victim temporarily bedfast, this form will not be considered in this chapter.

The chronic form may result from the acute, or from what sometimes is called a sub-acute form, similar to the acute but less severe; but in most cases it comes on insidiously in people who have never had either the acute or sub-acute form. The chronic form is considered to be a disease of middle life and old age and occurs about equally in men and women. By some it is considered to be hereditary, but it is most likely that the "heredity" consists of the same family habits of diet and hygiene, also the same climate. It is a disease of the temporeate zone, where there are more frequent sudden and marked changes in temperature and climatic conditions, with considerable dampness, and it develops most frequently in those who are exposed to sudden temperature changes in their occupation, also to cold and damp. The manual laborer often is affected but is not the most usual sufferer, however, at least not so frequently as those who are under a mental strain and who are not nourished properly, especially when the hygiene is defective. Hence, it develops more frequently in the poor—though it is no respecter of class. Injuries may be

responsible, such as blows and strains, also straining use of the joints. An injury to a joint may have been almost forgotten until that joint becomes the seat of rheumatic pains.

Of course, a species of bacteria is suspected to exist, as it is considered by the medical man as an infection; but as yet the germ has been successful in evading research.

Chronic rheumatism may be muscular or articular (of the joints) and, contrary to a common impression that the disease develops only in middle life and later, especially the muscular form may be found in early life. And "growing pains" are also a type of joint or bone rheumatism, and certainly they are not common in the mature man or woman. Both muscles or joints may be affected in some cases. Whether the muscular form is a true rheumatism or a false or pseudo-rheumatism, as some wish to call it, it comes on with similar conditions as does articular rheumatism—after exposure to cold and wet and fatigue; but a high degree of toxemia must be present in either case. Pain is the main symptom, aggravated by movements of the affected muscles and usually by pressure. Lumbago and wry-neck are present in this form.

In the articular form the main symptoms are swelling and heat of the affected joints, with an interference of joint movements. The joints usually feel distinctly hot. Sometimes the disturbance is confined to smaller joints, sometimes to large joints, but both large and small joints may be affected at the same time. Acute reactions occur from time to time, but each succeeding attack is milder than the preceding one, so far as pain is concerned, yet each leaves the joint more and more crippled, until it eventually becomes greatly disabled and the size and shape are markedly altered. The joints that are most usually implicated are those of the extremities, though those of the spine and also of the jaw are

not infrequently attacked, and in fact no joint is immune. The heart usually is not affected, as it is so frequently as a result of the acute inflammatory form, but there usually is anemia.

There may be a hypertrophic or an atrophic form—in the former the joints being greatly enlarged, and in the latter the surrounding tissues being so affected and atrophied that the joints appear enlarged.

In all diseases prevention is worth a ton of cure, but this is perhaps especially true in case of rheumatism. An exposure to inclement weather is a frequent starting or exciting cause, this should be avoided as much as possible, also marked physical, mental and nervous fatigue. The body should be well nourished with an alkalinizing diet that will prevent fermentation and putrefaction and toxemia. The body should be well protected against chill and damp, but not by an excess of clothing; it should be universally protected and the resistance built up by an open air life, cool or cold baths and plenty of sleep, rest and relaxation; besides exercises to maintain normal circulation and skin and general functional activity.

Any focus of infection should be avoided, or if rheumatism develops such a focus if discovered should receive attention, as it is more than likely that it will interfere with progress under the most satisfactory treatments.

When acute painful reactions develop, the patient should be put to bed until relieved. Except in the anemic and under-nourished, who require more nourishment, I believe all patients should adopt the fruit juice diet for several days, or the absolute fast, with the daily enema or colonic irrigation. Following this, and for the under-nourished, the milk diet may be used successfully in some cases, but by no means in all cases.

Some will do much better on a diet of raw salad vegetables, cooked green vegetables and fruits. It can not be positively determined beforehand what diet will be most apt to effect a favorable change, but if necessary various diets may be given trial. Starches and sugars and proteins usually are partly responsible for the condition and therefore should be kept out of the diet until a considerable improvement has been made. However, fats frequently are necessary, and cod liver oil is excellent in these cases.

In addition to rest (which sometimes is better secured by splints to the joints) local treatment should include hot applications. Hot-packs, wet with a saturated solution of Epsom salts or common table salt are excellent, also the hot-water bottle over dry flannel, or alternate hot and cold applications, though sometimes the ice-bag over a wet cloth is more agreeable, particularly in the acute exacerbations.

When the acute or severe pain has subsided, the joint may be moved in various directions and other local manipulation are sometimes excellent in these cases. As soon as possible, however, active motions of the joints should be started. Treatment in some institution that provides all these treatments plus a suitable diet and drinking water, and also special heating appliances, is to be recommended for those who can take advantage of it. Water in large amounts should be taken regularly unless the milk diet is taken, but distilled water should be used for the most part when procurable.

“Baking” the joint in dry air is an excellent treatment, and by an electric heating pad, by hot sand-bags or hot-water bottles, wet cloths covered by dry flannel, or an infrared or incandescent bulb, locally applied, will be excellent; but after such treatment (continued until the local part perspires well) there should be cold applications followed by careful drying and wrapping of the part sufficiently to main-

tain warmth. The part may be wrapped in cotton wool, or cotton or wool.

The skin should be kept active by an abundance of friction, also by cool or by hot and fairly cold baths if the reaction is good. Hot baths with massage are of great value, but the massage should continue after the bath until the skin is dry and the parts about the joint a glowing pink. As soon as safe, general active exercises should be taken, and to the point of perspiration if possible. In the muscular forms of rheumatism, local hot packs or fomentations or alternate long hot and short cold applications should be used, also massage when bearable, and perhaps natural or artificial sun-baths.

These measures with the correct diet and perhaps some or, if necessary, *all* of the health-building factors mentioned usually will take care of the other pains frequently misinterpreted as rheumatism. When one attack has been successfully overcome from then one should observe every prophylactic or preventative measure possible—and strictly—if a worse attack is to be avoided.

### **RUPTURE—HERNIA AND ITS RELIEF**

There are different kinds of rupture, but this discussion will be devoted to abdominal hernia. A rupture, or hernia, is a protrusion of any organ or part of the body through an opening in the wall of tissue that normally contains it. Abdominal hernia is an abnormal protrusion of some of the abdominal contents through a weakened portion of the abdominal wall. The abdominal cavity is lined by a membrane known as the peritoneum, in which are openings through which pass nerves, veins and arteries, which vessels sometimes are enclosed in special ducts. The peritoneum is reinforced by various muscles, ligaments, tendons and other tissues. When there is a lack of development of the muscles or weak-

ening of the tissues, any one of various types of strain may cause a portion of either the large or small intestine to be forced through such an opening, thus forming an external protuberance—a hernia.

Hernia is common in adult life, but usually where it develops in adults it has not been present in youth. When it develops after full maturity it usually is due to poor general health, abuse of the body, low tone of all tissues, obesity, and violence. These factors weaken the abdominal wall and as a result some part easily gives way.

The groin is the weakest part of the abdominal wall, and for this reason ruptures occur here in adult life more frequently than elsewhere.

Men are more susceptible to hernia than women, owing to the difference in structure of the abdominal wall in the two sexes. In the male each testicle develops in the abdomen close to the corresponding kidney and then descends late in intra-uterine life through the abdominal wall and down into the scrotum. There are external and internal rings through which these glands pass, and it is at these points where there is greatest weakening. As a rule tissues close tightly around these rings, but in quite a number of cases the rings are not reinforced as strongly as normal. Hence lifting, jumping, twisting, unusual movements and other strains result in protrusion of part of the intestine, through one or the other ring. The amount of intestine involved may vary from a small part of one loop to several loops or coils.

Long-standing cases result in adhesions of the portion of the peritoneum involved, or the formation of fibrous bands, either of which may complicate the condition so as to prevent reduction or replacement of the projected part of intestine. This results in an *irreducible hernia*.

A *reducible hernia* is one in which the intestine can be re-

placed easily. An *incarcerated hernia* is an obstructed hernia: one where the intestinal loop or loops remain through the hernial opening but in which the circulation is maintained so that gangrene does not develop. A *strangulated hernia* is one in which the protruding portion of the intestine is caught and is irreducible, and in which the circulation is shut off owing to pressure. Gangrene will develop within a short time in these latter cases.

Hernia not infrequently develops in women during pregnancy owing to the extra pressure on the abdomen and because of overeating and constipation.

Spontaneous correction of rupture is not infrequent, by the use of a truss and proper exercise, also the avoidance of additional strain. This spontaneous correction takes place more in childhood and youth than in adult life.

*Inguinal hernia* forms about seventy-five percent of all cases of hernia. It usually occurs on the right side, and most commonly in men. In this case there is a protrusion of intestine through the groin, having made its way through the inguinal canal. As a rule general muscular vigor and normal nutrition will prevent this type of rupture, and these conditions are necessary in the natural correction of it.

A direct inguinal hernia is one which does not come down through the inguinal canal but protrudes through the abdominal walls at the external ring. These are located higher in the abdominal wall than the inguinal hernia.

A *femoral hernia* is one appearing in the upper part of the thigh. It is more common in women, but less common than inguinal hernia.

*Scrotal hernia* is a form which appears in the scrotum. Usually this is due to a developmental defect; but even without this defect, if there is lack of tissue-tone or if there is some special strain this type of hernia may develop. It

somewhat resembles hydrocele, but it can be reduced when lying on the back, and especially by manipulation. Also there is an impulse detected upon coughing, and it has an entirely different feel from hydrocele.

An *umbilical hernia* is one at the umbilicus or navel. It is quite common in newly born infants, as this location is comparatively weak owing to the entrance of the umbilical cord. It may develop even in normal babies who do considerable violent crying. It not infrequently results from tight binding of the abdomen shortly after birth.

This type of hernia may exist in women also, especially large women who bear many children. If tissue tone is good no woman need fear this condition.

*Treatment.* This is a mechanical condition and requires surgical correction when the tissues locally and generally are so weak and spread so far apart that exercise and other natural measures will be unlikely to bring about normal tone and bring the tissues together. The injection treatment of hernia is replacing surgery to an appreciable extent. The treatment consists of injection of special substances into the opening, this causing a proliferation of tissues so that in time there is a closing of this opening. Where one wears a truss during the treatment, which may extend over several months, it is possible to be up and around. This type of treatment sometimes is unsuccessful and the condition will recur, and the same thing may happen after surgical treatment. A great many people, however, have corrected hernia by natural means, and particularly by proper exercise.

One with hernia should build or have made a satisfactory table or support that can have one end twenty inches or more higher than the other end—the table or board being six feet to six and a half feet in length. There should be hand rails at the side if a table is used, and a strap at the higher end

under which the fronts of the feet can be slipped for certain movements. One lies on this table or support head downward. At first it will be necessary to begin with very light movements such as bending the knee to the chest. Whatever movements are used they should be the same on the two sides, even if there is rupture only on one side.

The movements used may include the following: Bending the knees to the chest, singly, alternately and together (in fact many of the movements should be performed with one leg, then the other, then alternately, and then the two together); after raising the knees to the chest, extend the legs upward, back to the chest and extend to the table and repeat; after extending the feet upward as in the above movement, lower them while straight down to the table; extend them overhead and slightly separate the feet and close; separate and cross in a scissors movement, first one over the other, then reverse; after extending upward perform bicycle riding movements; extend upward and sway both together right and left repeatedly.

More strenuous movements are those in which the legs are raised from the extended position, the above movements being performed after they have been raised to the vertical. Owing to the special muscular hookup in the groin, it is always better in case of rupture or of weakness likely to result in rupture, to bend the knee slightly before raising the leg to the vertical. When the leg is raised perfectly straight there is a strain put upon the tissues in the groin because they are "off guard." Bending the knee places them "on guard," after which the leg may be raised without further danger.

Still more strenuous exercises are performed by placing the ankles under the strap and raising the upper part of the body. At first only the head should be raised; then the head and shoulders; then to a partial sitting position; and finally

to the sitting position. Then while in the sitting position the trunk may be rotated right and left. Later the body may be slightly rotated before beginning the sitting-up movement; also the trunk may be rotated right and left, and left and right.

It is important that a properly fitted truss be worn during these exercises until there has been considerable strengthening of the affected tissues. However, if the hernia is comparatively small, full protection may be given by holding the hand over the hernial area. But because this may be inadequately done, it usually is better to have a truss.

Additional types of exercise are walking on the hands and feet; also lying face down and raising the hips, especially while lying head down on the slanting table. These are not straining movements and they have a good effect upon fibers reached differently by the face-up exercises. With the patient lying on the side the upper leg may be raised and circled and moved forward; but as a rule it is advisable to avoid moving the leg backward. Both ankles may be under the strap and the trunk raised while lying on the side, also.

Five minutes at a time is sufficient at first for the exercise period, taken twice a day. It may gradually increase to twenty or thirty minutes when there results a progressive improvement.

The cold sitz-bath should follow the exercise treatment. If this is not convenient then cold cloths may be applied to the hernial area.

Another very good type of treatment to use after the exercise and before the sitz-bath or cold application is gentle massage around the opening of the hernia. This should be circular and should continue sufficiently to centralize circulation at this point for a few moments.

It is very important that the patient with hernia avoid

constipation and the distension of the abdomen with gas and with an excess of food and food waste. It is very beneficial in these cases to use a fruit diet for a few days, with a daily enema, in order to clear out the intestinal tract of any accumulations and to correct intestinal function. No specific diet is necessary, for diet has only an indirect effect upon rupture. However, the diet should include the natural foods—an abundance of raw and cooked green vegetables, all classes of fruits, whole grain products, milk and cottage cheese, and egg yolks particularly. The milk diet is not of particular benefit in these cases, but a quart or two may be taken daily if provided for in selecting the rest of the diet. Such a diet and the exercises suggested usually will result in normal bowel elimination. If not, then it would be well to use mineral oil, agar-agar, or psyllium seed, or their emulsions, or bran, or any other of the physiologic bowel aids procurable on the market.

The truss should not be dispensed with until there has been a restoration of the tissues practically to normal. One should avoid a cheap truss. It should be as good as can be procured and it should be properly fitted. There are many worse things than having to wear a truss throughout one's life, but as a rule where the treatment outlined above for correction of the structural defect is persistently followed it will often do away with the necessity of wearing a truss.

## SKIN DISEASE AND ITS TREATMENT

There are over one hundred well defined diseases of the skin. In spite of the fact that they cause a great amount of discomfort and irritation, most of these are not particularly difficult to cure. Many skin diseases, so called, are merely symptoms of some other disorders, such as infectious diseases or parasitism, although some exist as independent diseases.

Because it is impossible to hide skin blemishes when they affect the face and other exposed parts, there are few conditions that produce more mental disquiet than skin diseases. However, many of them appear on other parts of the body, and some do not seem to develop in the exposed parts.

Skin blemishes such as pimples and blotches are the most common skin ailments. They may be found on any part of the body, though as a rule they appear more prominently on the face, neck, chest and back. They appear quite common in boys and less common in girls at the time of puberty, because of different factors. There is a pronounced change in the glandular activity at this period, there is more oil formed in the oil-glands of the skin, and at this time there usually is little or no restriction of appetite, and there usually is a keen desire for sweets. Children at this age usually fail to give proper attention to the bowels, and for this reason plus the fact that they eat too much and of fermenting, putrefying foods, they usually have a toxemic intestinal tract.

The most common skin ailments outside of pimples are eczema and simple dermatitis, resulting from non-specific infections of the skin.

*Acne* is the diagnostic term for pimples. It is a chronic inflammatory disease in which there are few or many skin lesions. These may be minute, or may be large and disfiguring. The usual form is small, red, bright or dark red pin-head or pea-size papules. These appear more frequently on the forehead, chin or lower jaw, and black-heads usually are quite numerous in the same area. The skin may appear thick, dirty and greasy, and pus and sebaceous (oily or greasy) matter can be expressed from the lesions. After they have reached a certain point there may be a succession of these eruptions, some forming, some maturing and others healing at the same time. These are disfiguring and annoying, but

can practically invariably be completely removed, though not infrequently some of the scars of previous deep blemishes remain.

*Eczema* is another inflammatory condition of the skin, more or less chronic and appearing on any part of the body. There may be merely a redness, or there may be scales, pustules or fissures. There is intense irritation and itching in many of these cases. The surface may be dry or moist.

Among the *causes* of these and practically all other skin conditions, except the parasitic diseases, is a general or systemic toxemia. There usually is constipation, though not infrequently there is alternate constipation and diarrhea, and sometimes there is normal frequency of stools but an extremely foul condition of the intestinal tract. In this latter condition the blood-stream absorbs many foul elements, which must find an outlet, and the body selects the skin. Often the diet is acid-forming, with a great deficiency of the alkalinizing elements, in which case eczema is more likely to result than pimples, or acne. Those who have an acid odor to the perspiration are likely to develop eczema, particularly, but may develop other skin eruptions. Irregularity of menstruation and certain other uterine troubles, the peculiar condition called green-sickness or chlorosis, and general debility may lead to some skin lesions. Lack of sufficient external cleanliness, especially when in a dusty or dirty atmosphere, may so close the pores that eruptions develop to remove wastes that should have been eliminated through normal channels. Anything which reduces skin and bowel activity may result in skin blemishes.

The most easily demonstrated causes are digestive and constitutional disturbances. The excessive overeating or rich, sweet, fatty and heavy foods often will produce fresh outcropping of blemishes, indicating at once the close connection

between the digestive condition and the condition of the blood on the one hand and the condition of the skin on the other. Drugs are potent causes. Numbers of proprietary headache medicines thus may be included, also certain advertised blood purifiers which contain potassium iodide. Irritating soaps may be the cause in some cases.

*Treatment.* Unless due to parasites, any irritated condition of the skin is a manifestation of an unwholesome condition of the blood, and this can be corrected by removing the encumbrance that the body is abnormally eliminating through the skin.

It is not unnatural for the body to protect itself in any way it can, and if skin eruptions are necessary for protection of the internal organism, then it can not be called unnatural for the body to develop any type of necessary skin lesion. The unnatural feature is the mode of living that has made such an action on the part of the blood necessary.

As stated on an earlier page, the body has only two normal avenues for the entrance of substances into the body—the mouth and the breathing apparatus; whereas it has four for removing unwanted and harmful waste products—the lungs, the kidneys, the bowels and the skin. If all of these avenues of elimination are capable of eliminating their waste products as formed, there should be no skin eruption. It is when some of these, particularly the skin, kidneys and bowels, are unable to cope with the great excess of toxins formed through over-consumption of toxin-producing foods that it is necessary for the eruptions to appear.

In order to correct a condition of this kind, then, it is necessary to reduce the encumbrance and to permit the eliminative organs to catch up with their work. The fast is excellent in any skin condition and may continue for from five to twenty days or even longer, if weight, strength and energy

will permit. If for any reason this can not be taken, or at least not for a sufficient length of time, one may use fruit juice or the fruit diet. The daily enema may be used for bowel cleansing, but in this case it is permissible to use a very effective dose of one of the herb laxatives or of citrate of magnesia, milk of magnesia, Pluto water, or any other non-mercurial laxative for a thorough bowel cleansing at the onset of the fast or fruit diet. An abundance of water should be taken to flush the kidneys and to help the skin and bowel functions.

The later diet should be large amounts of fruits and vegetables, and for a time nothing else except milk if there is no eczema. Milk tends to aggravate eczema, for this is one of the allergic conditions often susceptible to milk protein. If it is known that the eczematous condition is not aggravated by milk then this is an excellent addition to the diet. Or one may procure a non-allergic milk preparation from an apothecary or dietitian. One should avoid meat in any form, spices, all salt and salt-preserved foods, condiments, fat and other rich foods, fried foods, pickled and smoked foods—in short, one should have as strict a diet of natural foods as it is possible to secure.

The improvement in the skin function in its normal direction should be encouraged by sweat-baths. Normally the skin throws off some waste products through the sweat or through the oily substance secreted on to the skin surface. Sheet packs and hot-blanket and cold-blanket packs are excellent, but one may use an electric cabinet or a steam-bath or a hot tub bath, or any other suitable means for securing a vigorous sweat. This will be brought about more quickly and more pronouncedly if one drinks considerable water, especially hot water, during the sweat-bath. Air and sun-baths and dry-friction baths, also moderately hot and cold

shower or other baths are all excellent in improving skin function and one or more of these should be taken daily. In fact, sunbaths should be taken at every possible opportunity. Eczema usually will not last long if the blood is purified and the bowels kept clean and the skin surface sunbathed regularly.

Exercise to the point of perspiration, except during a fast, is of great benefit in these cases—if there is no contraindicating factor. All other forms of constitutional treatment for building up vitality and increasing the vigor of the vital organs will prove beneficial.

### SORE THROAT AND ITS RELIEF

Sore throat is a comparatively common disorder. Often it is associated with a general feeling of fatigue or enervation and frequently there is some degree of fever, though comparatively slight. There may be headache also. But it is the disturbance in the throat and often affection of the voice and the apprehension associated with it that leads many people to relax comparatively for the time being.

Tonsilitis, of course, is one of the most frequent causes of sore throat, and yet there are many who have had their tonsils removed who have sore throat just as frequently and just as severely as when they had their tonsils intact—sometimes much more so, indeed. Sore throat may be due, then, to a tonsilitis, or it may be a pharyngitis or laryngitis, or all of these tissues or any group of them may be involved.

We have been taught to believe that it is exposure that brings on sore throats. As children we usually were bundled up with heavy clothing with a woolen knitted muffler about our throats to "protect" us from sore throat. If we went out of doors and left the muffler behind we often were hurried back into the house to get our protection properly applied.

If we could escape without such "protection" at all, chances are that we also escaped without a sore throat; but if we had to wear the muffler we were just as likely, or more likely, to get the sore throat. Those ragamuffin youngsters who go around with opened collar, probably generally blue from cold, do not get sore throat as often as do the coddled children of the "better class." They may have their feet soaking, and their clothes may be damp—but as a rule they have less to eat and they do not enjoy superheated homes, which partially explains their greater freedom from sore throats.

It is not exposure that causes inflammation of the mucous membrane of the throat. It is due to an acidosis chiefly, also a general toxemia, due particularly to eating too much cereal and other starch foods and an excess of sugar, and to a surplus of food in general also. Bacteria are present in our throats, whether inflamed or not, and some of the germs of serious diseases may be found in the throat of a person in sound health. Certainly these will be found in a throat that is inflamed. If they get a footing and are present in considerable numbers during the development of the sore throat it is because they are fed the substances that permit them to grow and multiply.

Where there is a tendency to colds and sore throat or sore throat without the colds, this is most certainly in evidence in the individual who overeats. Three meals and piece-mealing often are responsible. In addition to nutritious foods, useless food-products and spices and condiments are used. Tea and coffee and perhaps alcoholic beverages may be found partly responsible, and frequently tobacco is used also. This is one of the leading irritants to the throat mucous membrane. The homes or the working quarters—possibly both—may be overheated with "super-dry" air, causing an irritation of the mucous membrane. Bathing in hot water, with insufficient tonic

bathing, and clothing beyond the needs of the body for protection make the skin inactive. The diet and general mode of living have produced harmful acids in the body, and it is looking for an avenue of extra elimination. Certain factors have produced an internal congestion settling in the mucous membrane of the throat, and you have a sore throat —literally the direct result of the body's out-break for self-protection.

A sore throat will seldom become serious if one overcomes the causes enumerated at its onset. It is not advisable for one to change suddenly from heavy underwear and heavy winter clothing and hot bathing to scanty undergarments, and cold bathing, but steps should be made toward this change, by degrees.

It is necessary that acidosis be overcome, and the best means of doing this is by an abundance of the alkalinizing fruits and vegetables. However, for the first forty-eight to seventy-two hours even better results usually will be obtained by the complete water fast and copious water drinking. This is particularly advisable if there be fever or other general symptoms. This case does not call for radical cleansing of the intestinal tract, but there should be the daily enema of one or two quarts of tepid water. One should not attempt to return to a more ample diet than the fast or the fruit diet until the throat is at ease. Then natural foods should be added slowly, with starches and sugars, preferably including all sweet fruits, for a time omitted.

Fresh air is necessary in abundance in this condition. It should be supplied day and night. One should avoid chilling by insufficient bed coverings, but the bedroom should be supplied with freely circulating air. If necessary, heat may be placed in the bed to keep the feet warm, and this will aid in keeping the body warm. This is much better than closed

windows, overheated rooms, or an over-amount of bed clothing.

The bath of preference in these cases, unless there is fever, is the quick tonic bath, as cold as possible and yet secure prompt reaction. This should be especially given to the throat and chest. However, if there is a fever then such radical bathing should be substituted for by the cold wet-sheet pack, covered with a dry blanket so that there will be a slow increase in skin activity until perspiration is produced. After twenty or thirty minutes of normally brisk perspiration the body may be unwrapped, a small area at a time, and bathed with tepid or cold water, then dried, and covered with a dry sheet until the entire body has been bathed and dried.

The throat pack is generally helpful in these cases. This is two or three thicknesses of old sheeting wrung from cold water and wrapped about the throat snugly, then thoroughly covered with two or three thicknesses of dry flannel pinned snugly in place. This may be applied at night and removed in the morning, when the throat should be bathed briskly with cold water or with hot and cold water and thoroughly dried. If one is to remain indoors the pack may be re-applied after an hour or two of freedom from it. Several times a day the throat may be bathed with hot and cold water by cloth or sponge, each session to be terminated with a cold application and careful drying.

Sunlamp or natural sunlight treatment externally to the throat to the point of moderate sunburn is particularly excellent in these cases. It serves as an excellent counter-irritant. It should not be used, however, in case of fever. Equal parts of honey and lemon juice may be taken by teaspoonful doses every hour or so during the day. This is soothing to the irritated mucous membrane. Pineapple juice alone or with honey

may be equally soothing. If one desires, a gargle may be used also. One of the simplest and best is equal parts of baking soda, salt and boric acid. One may have these three ingredients well mixed in a suitable glass container. A teaspoonful of this mixture should be used in a glass of water whenever the use of a gargle is desirable. Hydrogen peroxide or common salt alone or glycothymoline or listerine or some other suitable alkaline preparation may be used for the gargle, but in most instances, nothing will surpass the mixture mentioned above.

One should be able from the above to figure out what is necessary for the *prevention* of sore throat. If one always has an alkalinizing diet with an abundance of fruits, vegetables and milk, with not too much whole grain cereal or other starches, comparatively little fat, and none of the richly prepared and rich concoctions forming a part of the conventional meal today; if one keeps physical tone up to what it should be, keeps the skin active, the kidneys free and the bowels sufficiently active, also if one secures enough rest, fresh air and sunlight, there need be no sore throats.

## STOMACH DISEASE—ITS SYMPTOMS AND SIGNIFICANCE

The stomach is subject to both acute and chronic disorders, but this chapter will be devoted to the chronic disorders. It might be mentioned here that in acute conditions almost without exception, whether in the stomach or any other part of the body, if the fast is initiated at its onset and all of the other factors frequently advised in this volume for purifying the blood-stream, aiding in the re-establishment of normal nerve-tone and adequate elimination through all channels, there need be no prolonged attack and there need be no complications.

There are numerous chronic disorders of the stomach that are quite common. As a rule it may be considered that they are different stages of the same condition. That condition is an irritation resulting from abuse through wrong selection of food and from wrong eating habits, and from such an abnormal condition of chemistry within the body (toxemia and acidosis) that the cells of the stomach cannot be properly nourished.

*Gastric hyperacidity* is a condition in which the gastric juice is secreted in excessive amounts. Too much food, highly seasoned, hot and spiced foods, alcoholic drinks, worry, grief and other detrimental emotional conditions, mental overactivity, diseases of the liver, gall-bladder and gall-duct, chronic appendicitis, and inflammation of other abdominal organs, are among the leading causes of this condition. Sometimes it seems to be due solely to some spinal lesion, either bony, muscular or ligamentous.

The symptoms are pain below the breastbone an hour or so after eating; gas and sour eructations, headache, dizziness, melancholia; aggravation of the pain by the intake of sugars and starches, and relief of the pain by protein foods which utilize the acid.

*Dyspepsia* is a term once commonly applied to this condition, although dyspepsia may mean a variety of digestive disorders. It usually means abnormal stomach digestion and is in a large measure discarded now in general use.

*Chronic gastritis* is usually a chronic gastric catarrh. There usually are loss of appetite, pain after meals, eructations, loss of weight to an appreciable extent, constipation, and considerable mental uneasiness until one becomes a neurasthenic. Often no type of food is found to digest satisfactorily, though sometimes the simplest foods will agree reasonably well. Combinations of foods may cause trouble, while a single ar-

ticle of food, even if not of the best type, may agree perfectly. In this condition there often is such failure of stomach-gland activity and circulation in the parts involved, that an ulceration develops.

*Ulcer of the stomach* is a comparatively common and more or less serious disease of the stomach. It often follows prolonged dyspepsia or hyperacidity. It results from the same causes mentioned as being responsible for hyperacidity. Some people may have hyperacidity for a long time and never develop ulcer, as there seems to be some particular requirement before an ulcer develops. This requirement frequently is considered to be an emotional state of depressing nature. Worry, anxiety, grief, for instance, are not infrequently followed by peptic ulcer.

*Hypopepsia.* This is a condition in which there is reduction of the digestive secretions of the stomach. This is the usual condition in a simple dyspepsia. Most cases follow a more or less extended period of hyperacidity, the causes of which have been given. Additional causes are a chronic catarrhal condition of the stomach or chronic gastritis; such neuroses as neurasthenia and hysteria; and prolonged worry, anxiety and suspense; severe anemias and toxemias, such as from certain types of goiter.

*Nervous diseases* of the stomach usually are considered neuroses. They may involve the nerves or the secretions or the motor activity of the stomach. Hypopepsia, in fact, usually is a gastric neurosis. The symptoms of these neuroses are slight or extreme, depending considerably upon the nervousness of the patient. Usually the discoverable causes are insignificant, even when the symptoms seemingly are pronounced. Any factors which will produce a neurasthenic or neurotic condition or that will seriously reduce the nerve-tone, combined with special susceptibility of the stomach or certain

dietetic and other habits which tend to center trouble at this point, lead to the development.

A *peptic ulcer* may be either in the stomach or in the duodenum, just beyond the outlet of the stomach. The causes of ulcers in these two locations are the same, the symptoms are much the same, and the treatment will be the same.

Symptoms preceding a peptic ulcer are dyspepsia, sour eructations, heartburn and more or less severe gnawing stomach pains before meals. The pain is relieved by eating, but in stomach ulcers it comes on again an hour or so after eating, and in duodenal ulcer two or three hours after eating in either case when the acidity reaches its height. Vomiting immediately after food is taken as the first serious symptom, and when the vomit is tinged with blood an ulcer usually may be diagnosed—though tentatively. These symptoms may appear and disappear for years.

In some instances it is found that the enforced rest given to the stomach by the prompt rejection of all food sometimes is sufficient to bring about a temporary healing. Continual dietetic errors will bring the condition on again, and with each recurrence the ulcerated area extends in size. Not infrequently the ulcer eats its way through the stomach wall and we have perforation into the peritoneal cavity resulting in peritonitis, an extremely grave condition demanding immediate operation.

*Cancer of the stomach* is a result of chronic irritation often developing on the site of an old ulcer. However, it may develop in stomachs never the seat of ulcer. But in every instance there have been years of abuse of the stomach and years of a pronounced systemic toxemia. Often there is an earlier history of excellent digestion. Some of those who develop cancer often pride themselves on being "able to eat nails." All at once dyspepsia develops, a severe pain appears

in the stomach region, and from then on digestion is painful and gradually more and more difficult. The signs by which a cancer can be recognized early are indefinite. One early symptom is a catarrhal condition that is more or less intractable. Emaciation develops, anemia also, and a peculiar yellowish tint takes the place of normal color in the skin. Vomiting upon the intake of food is a common late symptom, giving the appearance of coffee-grounds. The stools are tarry, from the presence of decomposed blood. In some instances a definite tumor mass can be felt upon palpation over the stomach area.

*Dilatation of the stomach* is a serious illness resulting from prolonged dyspepsia, gastritis or other conditions in which the stomach is overloaded by food and distended by gas. For its development it is also necessary for general tone to be reduced, and in many cases there is a spinal lesion. The chief characteristic of the disease is the expansion of the walls of the stomach, with such increase in capacity that the appetite becomes voracious and yet digestion takes place slowly. Vomiting, often of a severe nature, is a frequent symptom in severe dilatations, and there may be vomiting of food taken a day or two before.

*Prolapse of the stomach* is a very common condition, said to exist in at least seven out of ten women and a considerable number of men. It is due much to the same causes as result in dilatation, but other causes are rapid loss of weight, weight-lifting or other straining activities, and, in women, to the frequent bearing of children. There may be no symptoms of this condition or there may be an uneasiness or any degree of dyspepsia symptoms. All of these are relieved upon reclining.

*Treatment.* The stomach is the one organ which can be given a thorough rest, and diseases of this organ are among

the most certain of correction by natural means, with emphasis upon the fast and later diet. Even the intestines are used by the body to receive waste material brought from all parts of the body during a fast. The stomach usually is not called upon in this manner, hence can receive a complete rest and recover much of its original healthful functioning.

In all diseases of the stomach, without exception, the fast is of some value, and in most of them it is the greatest single factor of treatment. Many patients with gastric disorders have already become greatly emaciated and are unable to take a protracted fast. In most of these cases the fruit juice diet will be of benefit, though there are some cases of hyper-acidity and some of cancer of the stomach in which fruit juice is not well tolerated. In these cases a clear vegetable broth is much to be preferred. The duration of the fast or fruit or vegetable broth diet should depend upon the patient's general condition and upon the severity of the gastric disorder. Benefit will be derived from even two or three days of the fast or limited diet, but as a rule it is better to have from five to thirty days, depending upon effects and needs. Ten to fifteen days probably is a good average for these cases.

If the fast is taken it should be terminated by a fruit juice or vegetable broth diet. After this diet or after the same diet when the fast is not taken, the milk diet should be adopted if possible. With the possible exception of some cases of cancer, there is no disorder of the stomach in which the milk diet can not be used satisfactorily and with benefit—except in some individual cases in which the intolerance of milk can not be explained.

The quantity of milk used will vary considerably in the different diseases. In the majority of cases the usual plan may be followed with benefit: From one-half to one glass of

milk every two hours the first day (depending upon the length of the fast or preliminary diet); if one-half glass is required the first day, a full glass may be used every two hours the second day. Continue using one glass at each feeding, shortening the interval between the feedings on successive days to one and a half hours, one hour, three quarters of an hour and one-half hour, then continue taking one glass of milk every half hour for eleven or twelve hours of each day of the diet.

Most cases will benefit by the addition of lemon juice to the milk itself or as desired during the day. From ten to twenty drops of lemon juice may be added to each glass of milk or to as many as desired. The total quantity of lemons may be from one to a dozen daily. If there is a *hypopepsia* then more lemon juice will be required than in some other conditions. In *hyperpepsia* or *hyperacidity* lemon juice is not required. In this condition it often is better to take a pint of milk every hour, or a quart of milk every two hours during the day. In a case of hypoacidity, the patient usually can assimilate full cream. In a hyperacid case part of the cream should be removed.

After the milk diet has been continued until the results from it and the fast have been considerable, a very excellent plan is to discontinue taking the milk every day at two o'clock and then wait until between six and seven o'clock, when a balanced meal may be taken. This meal should be a simple combination, and formed around a protein or a starch. That is, any desired protein that experience knows to be agreeable may be selected; or a desired starch, such as potatoes, macaroni, baked rice, etc. The rest of the meal may be of cooked and raw green vegetables.

If there is any pronounced irritation in the stomach it usually is better to eliminate the raw vegetables, or at least

to be certain to masticate them thoroughly and then discard from the mouth the fibrous material that can not be reduced to a liquid or fine pulp. Many times it is better to run the vegetables through a sieve. In this manner, it will be practicable to make a purée of almost any sort of vegetable. This is particularly important in cases of peptic ulcer and cancer of the stomach. In these cases animal proteins usually should be omitted as they increase the amount of acid, which is undesirable. All other proteins increase acid, but not to the extent that animal proteins do.

Other factors of treatment are of much benefit in these cases and usually will be required in some measure. When strength and energy permit, one should secure gradually-increasing amounts of exercise, being always careful to avoid any special strain or fatigue. The tepid or somewhat cool general bath, by any preferred means, is of value, but extremely cold or hot baths should be avoided. In some instances a cold compress over the stomach region will improve circulation and digestion in the stomach. There must be plenty of rest and sleep, fresh air, and a serene mental attitude.

As for individual diseases, some additional points of interest will be given below.

In *hyperacidity* it is better to drink warm or hot water quite abundantly during the fast, rather than cold water, since the latter increases the amount of acid secreted in the stomach.

While *cancer* usually is a progressively destructive disease, numerous cases diagnosed as cancer of the stomach have been completely cured by natural treatment. However, prevention of this condition is decidedly preferable, and depends upon a reasonably strict physical culture program of living. In cancer particularly, the juice of fresh grapes or unsweetened bottled grape juice may be used fairly liberally and

usually with as good results or better than can be secured on other fruit juices.

In *dilatation* and *prolapse* of the stomach the milk diet is particularly helpful. If the abnormality is very pronounced it would be better for the patient to remain in bed for two or three weeks while taking the diet, to permit the tissue tone to be recovered to a considerable extent before subjecting the stomach walls and supports to additional stress.

In these cases the fast is of especial value, the stomach often returning to normal size and position on a fast of several days. In both conditions also, the position and exercise on the inclined table or support are practically essential to definite correction. The patient should lie head down and perform those movements that are enumerated in the chapter on *Rupture*. Concussion of the fifth dorsal vertebræ for half a minute and repeating twice after half-minute rests may be given twice daily with benefit. In these two conditions also it is of value to have the foot of the bed elevated on blocks, or the spring of the bed elevated at the foot five to eight inches in height by means of a board.

In many of these disorders it is necessary to repeat the fast or other preliminary diet and the milk diet. There is no treatment that will produce results of a lasting nature more fully than the treatment outlined, but if there is considerable abnormality it naturally will take time.

In some cases of gastric ulcer the milk diet or the milk and cream diet as recommended by Sippy is preferable to a fast. Small quantities (two ounces) of one-third cream and two-thirds milk, or in some cases one-half cream and one-half milk given every two hours for a few days. This will usually greatly ameliorate pain and frequently will check vomiting. After a few days the diet is modified by adding white of egg, gelatin and some form of cereal with cream. Later, during

the third week, custards, milk toast, soft boiled egg, and purées of green vegetables may be given.

### TOXEMIA AS A SOURCE OF DISEASE

Toxemia is a word we may accept as displacing autointoxication in a large measure as a term indicating toxic accumulations within the body. Similar conditions often are called autotoxemia. Even the term toxemia does not cover the condition that it is meant to cover. Toxemia means toxins in the blood-stream. The condition that we may term toxemia is much more than this. Toxemia is the presence of toxins, poisons, waste products and acids in the blood- and lymph-streams and in the organs and cells of the body. Toxicosis is perhaps a more fitting term for the condition, but toxemia is perhaps more readily understood, and this is the term we shall use.

As stated in earlier passages, the body has four avenues of elimination. When the amount of food taken into the body is excessive or when it is of such combination or nature that it proves beyond the capacity of some of the vital organs, or when there is general enervation or one of numerous other conditions that interfere with elimination through one or more of these four channels, there is a gradual accumulation of unused materials within the body. As this slowly increases it adds to the organic encumbrance and reduces nerve functioning. These make the increase of toxemia still more rapid and pronounced. A vicious circle develops, each of these conditions intensifying the other until we have a high degree of toxemia—and the principal cause of practically all forms of disease.

One of the chief causes of toxemia has been the overuse of refined, devitalized foods, which have clogged the digestive tract because of their constipating effect, and have affected the

system because of their deficiency in the vitamins and minerals that maintain normal tissue tone. They also have been such as to undergo pronounced putrefaction and fermentation, the abnormal products of which have been absorbed through the intestinal membranes. A large amount of white sugar and its products, pastries, spices and condiments, foods preserved by various methods, the use of laxatives, cathartics and purgatives, and the consumption of various stimulants, all have served to over-stimulate or depress the natural vital functions. This has resulted in enervation or lowered nerve tone, which has led in turn to, or intensified an existing, toxemia.

These various wrong habits of living interfere with the metabolism in general, so that more poisons are produced than would normally be the case. At the same time they lower the rate of elimination so that these poisons are not thrown off as they should be.

The treatment of toxemia is to be recognized in the recital of causes of toxemia. In order to overcome the condition, it is necessary to retrain bodily habits until we have reached a more nearly normal or natural, a saner and more rational mode of living, involving every factor that has to do with daily life. Whether or not there are any appreciably noticeable symptoms present, one can be assured that if the toxemia is permitted to continue without reduction, disease symptoms inevitably will make their appearance. And as a rule the toxemia does not remain at a standstill, but steadily increases. If one desires to prevent the innumerable symptoms and so called functional and organic, acute and chronic diseases, one can be more certain of doing so through striking at the fount of these symptoms and diseases—at toxemia itself—than by any other method.

The fast is the best possible initial treatment of toxemia. It is certain that if toxins are not being put into the body,

the body will throw off some already present. When no food is supplied the body will derive its energy for activity and organic functioning and the mere process of living, from its own surplus tissues plus the encumbrance of toxins and waste accumulations. In this way toxemia is gradually reduced.

The duration of the fast will depend upon the condition of the individual as to weight, strength and energy. Many times there are present such a pronounced enervation and loss of weight that a complete fast is out of the question. In these cases the fruit or fruit juice diet may be employed with satisfactory benefit. One of the factors of toxemia is an acidosis, due to accumulation of end-products of chemical changes in food consumed and in metabolism. The fruit juices, while acid in reaction, are not acid in the blood-stream. They are neutralizing to the acids present in the blood-stream and in the cell environment. The fruit acids are absorbed as acids, but they are immediately oxidized so that there is absolutely no acid-forming tendency of these in the body. It is the alkaline "ash" (as science once termed unidentified elements) in the juice that is of such importance in an acidosis or toxemia.

To eradicate toxemia it is necessary that all eliminative channels be improved in function. Sweat-baths, by any available satisfactory means, are of considerable benefit. But one must not expect to eliminate a great share of the body's waste accumulations solely through the increased perspiration. Such treatment should open up the pores of the skin so that at intervals between such baths there is better skin activity—better elimination, better reaction to air, and better regulation of heat within the body, etc.

The cold bath is one of the best treatments for toxemia also. It should be used daily, though it need not be much below body temperature. If the sweat-bath is used it should be

terminated by a warm bath and a cold bath. There is no better single factor for favorable influence upon the heart and circulation in general, the nervous system and muscular tone, also gland activity, than the reaction obtained through use of the tonic bath.

Muscular exercise is of importance, but during the fast it may be confined to walking and deep breathing. When the strength and energy permit after the fast, one should accustom the muscles to general exercise, and this should be a daily practice. The six hundred odd muscles of the body absolutely demand activity for their health. Because of their bulk, if they are not properly cared for, the rest of the body is bound to suffer. They are the greatest consumers of the food taken into the digestive apparatus.

The intestinal activity must be normalized. During the fast it is important that the enema be taken daily unless there is spontaneous elimination. On the later diet sufficient bulky and laxative foods should be selected that normal activity will be possible and assured. All drug substances which produce prompt elimination from the bowels should be avoided, as they produce their effect through stimulation, and must result in a gradually developing constipation.

There must be adequate relaxation and sleep in order that nerve tone may be restored or maintained, that circulation may be balanced and that repair and rebuilding may be possible. One should cultivate some hobby or take up some special recreation that rests the mind from the daily vocation.

One should aim to live on as natural foods as possible. These have been enumerated time and again and should not need re-enumeration here. No more food than required should be used, but enough should be taken to insure normal nutrition. By all means secure enough of the protective min-

eral elements and vitamins through vegetables, fruit and milk, and the rest of the diet can be selected more or less at random. However, the more nearly natural and vital it is the more nearly toxemia will be prevented in the future, and as a result more complete will be the health in general.

## TUMORS AND INTERNAL GROWTHS

The word tumor literally means a lump or a swelling, but as a scientific term it is now referred to as a swelling of a particular kind. A tumor has been defined as "an atypical new formation not resulting from inflammation." This definition excludes such a swelling as a boil or abscess, because these result from inflammation. Swellings due to overgrowth also are excluded. The swelling of a blacksmith's arm, for example, is not a tumor, because it has the typical structure of muscle. Nor is an additional or a supernumerary finger a tumor, because it has the typical structure of a finger. We see from the above, tumors are abnormal growths which differ from the tissue in which they develop. There may be (but as often is not) inflammation associated with their formation, but the growths are not the result of the inflammatory process. There are many types of tumors, differing in nature and effect, some being comparatively harmless and some being of a malignant type. The harmless ones are called "benign" tumors.

The benign tumors, while in themselves not destructive of adjacent tissue and not toxin producing, often may become serious through pressure upon adjacent or nearby organs or upon blood-vessels, thus interfering with circulation to or from a part.

The cause of tumors is not definitely known. In fact comparatively little is known regarding their origin. So many appear to result from injury that this must be con-

sidered as at least a contributing cause. As an illustration, tumors of the breast quite often develop after a blow, and cancer of the lip or tongue often appears in an incessant smoker, particularly of a clay pipe. While cancer may not be inherited directly, heredity may have some influence as a predisposing factor. It is claimed now that, while the usual age after which cancer develops is thirty-five or thereabouts, there is an increasing tendency to earlier appearance. This is thought to be due to inherited predisposition and a continuation of certain unknown habits of living that develop certain unknown toxemic states that make the growth possible.

It is considered by some pathologists that cancer, and possibly some other forms of tumor growths, are due to parasitic infection. This is not considered a factor by some scientists, and all endeavors to locate or discover a causative parasite have led to failure, as have all serums for inoculative treatment concocted with the idea of combating bacteria and their toxins.

While the simple and benign tumors are not so definitely the result of abnormal chemistry of the body, it is reasonably clear that malignant growths are in a considerable degree, if not entirely, the result of such altered chemistry. For the recent few generations during which malignant growths have steadily increased there have been gross changes in diet. During this time (until within very recent years) white flour and its products have supplanted entirely whole grain products. The use of sugar and its products likewise has steadily increased. An additional possible factor has been the long decline, as agricultural conditions were superseded, in the use of green vegetables and fresh fruits until quite recent years.

These various factors have tended to deprive the cells of the body of the required amount and balance of absolutely

necessary mineral elements and vitamins. In addition they have supplied elements wholly foreign to the body. Combined with the numerous other factors that have resulted in enervation or reduced nerve tone and also that have had their influence upon the systemic chemistry, there is reason enough for believing that malignancy has increased because of these factors and that malignancy is wholly preventable.

It is unnecessary to go into any detail regarding the types of tumors, but something of their nature will be briefly considered.

Simple tumors grow slowly and often intermittently. They usually are enclosed in a capsule. They remain where they are formed, except for increase in size, without invading neighboring structures. If they are removed, there is no recurrence. There is no tendency to similar growths developing in other parts of the body through the blood-stream. They are not painful unless they cause pressure upon nerves. They have no direct detrimental influence upon health and do not lead to a fatal termination except through mechanical interference with vital organs.

Malignant tumors, on the other hand, grow more rapidly and constantly. The more malignant their nature, the more rapidly they grow. They are not encapsulated, but involve the neighboring tissues. They eventually undergo suppuration or ulceration, and may bleed. Secondary growths elsewhere in the body result. There is a general undermining of health from them, because of the underlying extreme toxemic condition, because of the toxins produced in and absorbed from the malignant growth, and because of involvement of vital structures or circulation. Upon removal the tendency is to recurrence. When left to themselves they destroy life through the discharges and hemorrhages and toxemia resulting, and the invasion of vital organs.

Since tumors result from an abnormal blood chemistry and glandular activity, constitutional measures will be necessary to favorably affect them, and if the growth has not developed to too great a degree and is not involving vital structures to too great an extent, their complete eradication by constitutional measures may sometimes be procured. One theory regarding the cause of cancer is that the involved cells (if not the whole body) are old before their time. Natural procedures will have the effect of removing toxemia, removing old and broken down cells, rejuvenating cells that are below normal, modifying functional activities and improving the function of the blood-making organs and the quality of the blood they produce. Hence a radical blood-purifying procedure is necessary, as well as general eliminative measures.

The fast is the most important of all procedures in the treatment of tumors. During a fast the blood is in condition, through lack of surplus material, to absorb any elements in the body that are not necessary. It has been noted that during the fast cancerous tissues, as well as non-malignant tumors gradually diminish in size and not infrequently wholly disappear. It can not be stated as a certainty that this will be the result. But even if surgical operation is considered necessary the fast will put the body in such a condition that recuperation will be more prompt and recurrence will be much less likely. Furthermore, since malignant tumors tend to spread out like a multi-tentacled octopus into the neighboring tissue, the fast will aid in removing at least the more recently formed of these extensions so that the operation will be much more likely to remove all vestiges of the growth. But one should take the fast for its possible curative effect primarily (not in preparation for operation). If there has not been too great a loss of flesh and hemoglobin, that is, if there is not too great emaciation and anemia, the fast may

continue for many days or several weeks. If after two weeks or so of a fast any palpable growth has made no appreciable reduction in size it may be better to use fruit juices or vegetable broth or both.

In fact, fruit juice may be used from the beginning, and particularly in cases of anemia and emaciation. The grape is considered one of the best fruits in this condition—either the juice of the fresh grape or unsweetened bottled juice being used. However, oranges, grapefruit or any other fresh fruit may be used, and with as satisfactory results. One may take a dozen oranges or so daily or the equivalent in any other juice. There should be copious water drinking, to add to the fluid in the blood-stream so that its absorptive powers will be increased.

The enema should be used daily to remove all possible sources of blood contamination from retained bowel wastes. The skin should be kept thoroughly cleansed by warm soap baths, followed by cool baths or, if the strength and energy permits, by a moderately hot bath followed by decidedly cool or moderately cold baths. However, reaction to complete warmth must be established shortly. There must be an abundance of fresh air at all times, as oxidation must take place and fresh air is necessary for this.

If the growth is in some location where physical activity does not disturb it, muscular exercise may be indulged in moderately. It is important that the circulation be maintained reasonably normally throughout the body and exercise is one of the leading means of accomplishing this. Naturally, if there are emaciation and anemia, the activity necessarily may be confined to walking. As intimated, no movements should be taken which cause discomfort in the affected region. There must be adequate relaxation and sleep, for in these conditions the energy usually is reduced and it is not re-

gained as readily or as promptly as it may be in many other conditions.

Spinal compresses and massage may be of considerable value. Specific spinal therapy usually is not of particular importance. General massage may be given, and should be given in cases where physical activity is denied—though it may be used in any case with benefit.

Additional stimulation of the skin activity may be secured by the hot or cold wet-sheet pack or the blanket-pack, hot tub bath, or any other sweating bath if the general condition permits. Even in somewhat anemic and underweight conditions the blanket-pack may be used with some measure of benefit. Naturally, these baths can not continue for any appreciable duration, because of the weakness often associated with the condition.

The diet after the fast or fruit diet should be aseptic and barely enough to support the body's activity. So long as ample food is supplied for complete nourishment there will be no further absorption of any growth. The fruits and vegetables, particularly the fresh juicy fruits and the leafy vegetables, should form by far the greater portion of the diet. These provide the essential neutralizing minerals and vitamins and they give the blood elements which it can use to combine with broken down tissues and waste products, thus making them more easily eliminated and at the same time less injurious while in the body. Meats and all flesh foods (fish and fowl) should be eliminated from the diet, also all spices and condiments and particularly salt, including all salt-preserved foods, all pickled and vinegared foods, and smoked foods.

All rich and fried food should be avoided, and what foods are cooked should be baked or broiled or cooked in parchment paper or in covered enamel ware or in non-aluminum

steaming vessels. Pressure cooking may be used also, and the double boiler is excellent in cooking. However, one of the best means of cooking is parchment paper, which retains every possible value of the food, including its natural flavor, with the addition of no extraneous substance whatever, even including water. Moderate amounts of whole grain cereals may be used, but these must not form a large portion of the diet. Milk may be used, and in many cases especially some form of sour milk.

The strict milk diet is of benefit in some cases, but owing to the considerable quantity of protein in this diet, it is not always an ideal diet.

Strange as it may seem, the sunbath is not favorable to malignant growths. In non-malignant cases the sunbath may be used with benefit, though it will have only an indirect beneficial effect. The reason for sunlight being detrimental in cancerous conditions is not understood as yet. If one would begin the use of the sunbath by five-minute exposure to the feet and then after several days increase a few inches up the lower extremities until after a month or so the entire body is exposed for short periods, it is possible for the body to utilize the chemicals produced in the skin by the sunbath. But when the entire body is exposed there is an unfavorable reaction, possibly due to an excess of these chemicals generated in the skin.

Malignant growths often produce agonizing pain. Unless they involve the surface, hot or cold packs may be employed to somewhat alleviate the pain. Thus in cancer of the stomach the abdominal packs may be employed, also the cold wet abdominal pack may be applied at night, being sufficiently covered with dry flannel that warmth is re-established at once. The pack may remain on until morning. The hot pack is preferable in case of anemia and emaciation, otherwise

the cold pack may be preferred, as the effect is similar.

The sitz-bath or hip-packs may be used in case of pelvic cancer and cancer of the uterus. The sitz-bath may be hot or cold, but preferably hot and cold, two or three changes taken once or twice daily. The cold should be momentary only.

In cancer of the breast the local wet-sheet pack may be employed with some benefit. This is similar to the abdominal girdle except that it involves the chest. It may be hot or cold, according to the patient's general condition. Sometimes this greatly relieves pain.

If the numerous causes mentioned above were avoided, if people returned at least in some measure to nature in their diet and general mode of living, if they would not house themselves inside and so cover their bodies as to smother all natural skin activity, and if they would not deny themselves sunlight, adequate sleep, normal physical movement and so on, there would be fewer of benign growths, and fewer still of malignant growths. In order to correct the conditions once they have developed we must revert to more primitive means of living, at least in our diet if in no other factor, but for best results in all of the factors already enumerated.

In the treatment of superficial or skin cancer, known as epithelioma, most excellent results have been obtained by the use of the X-ray combined with proper diet, and with other natural methods of treatment as mentioned above. Radium has also proved beneficial in the treatment of skin cancers. In the treatment of deep-seated malignancies, results of radium applications have not been so satisfactory.

### UNDERWEIGHT PROBLEMS

How to gain weight is a question not so often discussed as is the subject of reducing weight. Some persons cannot be

made to gain a pound by any means of persuasion or suasion, while others find it hard not to keep continually on the up-grade. The latter are more fortunate in one respect—for their tendency *can* be controlled—they *can* be reduced if they try hard enough.

This may seem somewhat discouraging to the slender ones; but really there are very few who cannot be made to gain some weight. However, no one can say that anyone can gain ten pounds or twenty pounds, or any other number of pounds. No one can know another's possibilities in this respect.

Why be concerned about underweight, in any case? Many thin persons appear attractive in almost any type of clothing, except perhaps swimming suits; they "wear their clothes better" as a rule, and this has great appeal to many persons, not only young girls but young men and even their elders. Clothes do not make the individual; but when a person thinks and feels that his clothes "fit" properly and look well, his own opinion advances measurably. Hence his value to himself and even to others, increases.

But there is a health factor of weight that is far more important. In fact, it is the only concern of importance. We cannot judge the health, nervous energy, brain capacity and productivity, vitality, resistance to disease and longevity, by the weight of the individual; but usually we take the weight as a guide as to one's physical condition in respect to his hardihood, digestion and assimilation, stamina and endurance. There is the race horse type of individual, and the draft horse type—the greyhound type and the mastiff type; and neither of these can be made to approach the other, by any method of treatment (at least after maturity) or mode of living. Yet there are such things as an emaciated race horse or greyhound and an overweight draft horse or mastiff. One's aim should

be to approach the normal for his *type*—and his individual normal. If one considers for a moment it will be seen that there is a distinction and a difference between these two normals.

It is of no advantage to have a normal weight if it is obtained or maintained by means that rob one of vitality and health. In other words, weight in itself means nothing. And enough has been said about the dangers of too much weight to show that one might better be on the gaunt than on the portly order. Thin people as a rule have a better chance of long life than fat people. Nearly all old people—really old people—are thin. Besides, thin people do more, mentally and physically, than fat people as a rule. If they should be overtaken by an epidemic or other disease, with the exception of tuberculosis and other wasting diseases, they have a far better chance of throwing off the trouble and emerging free from serious or disturbing after-effects.

But there is a limit of slenderness for health's sake; there is a weight at which one possesses and shows a better degree of vitality and better general health. This does not consist of fat, but of better developed muscles and larger bones, with just sufficient fat to produce a pleasing roundness and the prevention of too many seams. If there is no fat—and many have good muscles with no fat over them—others may appear not only slender but abnormally slender. Such people may be in superb health regardless of the low scale readings.

Yet if one appears abnormally slender, there is a cause, and this must be taken into consideration when endeavoring to gain. There may exist no specific disease but there may be present disturbed digestion or reduced assimilation, from general toxemia, overeating, hasty eating, wrong food selection, harmful foods, foods and adjuncts (spices, condiments, etc.), catarrh of the stomach or bowels, constipation, etc.

Every one of these possible causes should be summed up in the one word general toxemia, with its causes—which are wrong eating and numerous wrong living habits in general.

Occupation, confinement away from sunlight and fresh air, and irritating environment and worry may be causes. Worry may cause loss of weight, but never yet has put a pound of weight on anyone. Diarrhea, diabetic and kidney disease, tuberculosis, anemia, cancer, toxic goiter or over-active thyroid—these, which may be classed among the causes, are but further results of general toxemia.

An unbalanced diet is a very frequent cause of thinness, as is also a diet of refined foods, deficient in really nourishing elements. Some women habitually putting around at this and that, using enough food-energy daily to put on weight if they took their housework, occupation or profession, and themselves somewhat less seriously.

Many people probably eat large amounts of food, under the mistaken idea that the more they eat the more they will gain or the better the chance of gaining. They disturb and obstruct the digestive processes, reduce metabolism, and utilize large amounts of energy in attempting to digest and to pass the required and excess food through the digestive tract and eliminate the unneeded.

Other women, members of the slowly-disappearing modern flapper type, deliberately eat too little, laboring under a mistaken conception of what constitutes physical beauty and charm. Such girls and women are actually under-nourished because of inadequate consumption of food, especially of vital foods, while the heavy eaters are just as actually under-nourished—but from retarded functions and dissipated energy, probably also from foods deficient in nourishing elements.

Exercise has much to do with one's weight, also. Many take too much exercise in one or more of various ways, while

more do not take enough. Exercise makes a definite demand for more nourishment in all parts of the body, but especially in the muscles. When proper and sufficient foods are given along with adequate favorable exercise, the muscles grow—also, to some extent, the bones. A more normal layer of fat is more apt to be formed over the muscles also, if the exercise is not too severe or too often, and if there is a good balance between it and rest and relaxation. Some people are able to gain merely by adjusting their eating-habits, others merely by curtailing their exercises; but the best results usually are secured by a method that includes all measures that have a general health-promoting effect.

It has been said time after time that "What is one man's meat is another man's poison." Not by the farthest stretch of the imagination can this be true. However, what will have a pronounced effect upon one person may have a much less noticeable effect upon another, whether that something be toward building health or weight, or toward health destruction. Much depends upon the individual himself. Nevertheless, what will have a weight-producing effect upon one person will have the same effect upon others, in more or less degree.

There are very few who will not make a gain in weight on the milk diet, some making a gain of many pounds a month, others only a few pounds. In one case reported, there was a gain of sixty pounds in six weeks on the strict milk diet, to which was added a comb of honey daily. Some will retain all of the weight thus gained, others will lose some of the weight and still others will lose all of that gained, in time. Taken properly, changing later to a diet which will stabilize weight, and with proper measures in other respects, one of the best and surest ways of adding the desired pounds is by the milk diet.

With this or any other diet for this effect it frequently is better to start with the fast or a diet of acid fruits or their juices for a few days. This allows the digestion, elimination and assimilation to improve, by providing a rest to the digestive organs and speedier elimination of the catarrhal accumulation of months or years. It is such catarrhal conditions that help to cause or that aggravate thinness.

Different people will require different amounts of milk for gaining, and different lengths of fasts in preparation for the milk. Nothing specific can be given in this chapter as to what will be required in any given case. I may state briefly that probably from one to seven days of fasting or fruit juice dieting may be required, and from four quarts of milk daily, for the small woman or man, to six quarts daily for larger persons. I recommend this method to anyone, however, who has been underweight for years or who never has been normal in weight or who has lost weight as a result of an acute or chronic disease.

An excellent plan that I devised years ago for the thin person who could not fast long enough, yet whose digestion was so abnormal as to make the fast almost necessary, is to fast one day and take the milk diet one day, then alternate the fast and milk diet by increasing the number of days of each by one up to seven days of fasting and seven days of milk diet. After the seven days of milk, this diet may be continued indefinitely, or a solid food diet may be taken if preferred.

It always is better to continue on the milk diet for six weeks or longer for best results. After this time the best plan is to continue on the milk as usual up to one or two in the afternoon, then to take nothing until the evening meal hour. At this time there should be raw vegetables, sweet fruit and milk or buttermilk or clabbered milk. After a few

days nuts or cottage (pot) cheese, fish or eggs may be used, though it is better not to use any of these in the same meal with any form of milk. Whole grain cereal products also may be added, raw rolled oats being excellent, with the vegetables, sweet fruit and milk.

The quantity of any of these foods will depend upon so many factors that the individual will need to determine this for himself. However, one should avoid the mistake of trying to eat *excessive* quantities. The weight is increased better by quantities well within the digestive capacity than by any quantity beyond this. There should be a natural hunger for all foods, and if this should be missing it will do no good to eat heartily, nor even small quantities.

If for any reason the strict milk diet can not be taken, a solid food diet may be used with almost as good benefit in many cases. If possible, however, one should use considerable milk regularly in the diet, provided it is considered as part of the meal and not used at the end of a full meal for a filler or between meals.

The foods to select from for the solid food diet are the natural starches and sugars—dates, raisins, figs, bananas and prunes, and honey occasionally; the whole grain cereals, either uncooked or wholesomely cooked, potatoes and other tuberous vegetables of good starch content; the proteins, in not too large quantities—milk in any form and cheese, also eggs, beans and peas; the natural fats—of milk, eggs (yolks), nuts, butter, nut butter, and olive and nut oils. Cod liver oil will prove helpful in many cases.

One should not make the mistake of neglecting any of the natural foods, particularly the fresh and citrus fruits (except lemons, which should be taken rather sparingly), and the salad vegetables, also berries and melons in season. Some of these foods should form a fairly large part of each meal.

A fair quantity of water should be taken daily, but immediately after, rather than with meals, unless definitely thirsty at meal time. Except for combining starches or sugars with acids, and sugars with starches (except sweet fruits and cereals which is an ideal combination), the foods mentioned may be combined to suit the taste. Another combination, however, which usually is much better to avoid is that of protein and starch in the same meal.

Much rest may be necessary; in fact almost complete rest may be required for a period by many. Usually if there are eight or nine hours of sleep, with relaxation when possible, the protracted complete rest will not be required. The exercise should be very limited at first, preferably only walking and deep breathing. Later a general, slow, somewhat heavy, rather than rapid movement may be taken, also light sports or work. There should be some of the heavy movements taken on alternate days; and either on the same day or days alternating with these some of the lighter movements for agility.

Hot baths should be avoided unless of only two or three minutes' duration. Short barely warm and only moderately cool baths are better for most people trying to gain. In many instances sexual rest will be of utmost importance. Unless the vital energies are conserved in this way it will be impossible for the muscles to become firm and solid and for the weight to increase.

It must be remembered that weight is gained only if the intake of nourishment exceeds the output of energy. Since there has been a warning against heavy eating, it will be necessary to conserve the energies while eating comparatively small quantities, but of the proper foods. Any habit that tends to dissipate energies must be put well under control so that it does not permit the expenditure of more than can be

restored by the food taken in and the rest secured. Numerous so called pleasures exhaust energies, and so long as they are pursued under such circumstances one hardly can expect an increase in weight. More than this, if they have been enjoyed for a considerable length of time they may have so exhausted the energies that it will require weeks or months to overcome their effects and begin a gain in solid tissues, in fat, in weight and in energy.

When all our habits are as they should be, we shall have that weight that is proper for us, and at the same time we shall find all our faculties at their best, and our health at its highest. It may take a little more time than some impatient persons will want to give. But such impatience will not help any one to win the desired objective, in fact it will but serve to prevent gains. Therefore composure of mind is as necessary as the adoption of the proper physical measures. Keep calm and keep cheerful; and if you are doing the proper things in other respects, you will gain the weight you desire—provided, of course, that it is possible for such weight to be gained by you.

### VARICOCELE AND KINDRED DISORDERS

This is a fairly common male disorder, consisting of a swelling or enlargement of the veins of the spermatic cord present in the scrotum. The enlargement of the vessels may be slight and insignificant or so prominent that the scrotum also becomes quite swollen and pendulous. Usually it exists in mild degree, and is said to occur in about one in every ten young men. Many of those with mild varicocele give the condition more thought and worry more about it than some with a pronounced degree. The condition results from disturbances of the local circulation.

In some cases there is a fullness and twisting of the sper-

matic veins in which there is no definite varicocele, the veins being normal and the functions normal. Varicocele is one condition which charlatans and quacks in the past have utilized to increase their revenue—at the expense of the peace of mind of their patients. They often make much of insignificant degrees of varicocele. Unscrupulous physicians often claim that every other possible sexual ailment except venereal disease results from or can result from varicocele.

The spermatic cord is a sheath-like structure suspending the testicle on each side, and containing the duct of this gland, the vas deferens, the spermatic arteries and the spermatic veins, which take the form of a network. A poor general circulation and any condition which results in local congestion in the parts, general low tissue tone, constipation, lifting of heavy weights, long standing on the feet, bicycle riding and certain jars and stresses may cause varicocele.

*Symptoms.* Upon palpation of the scrotum there is felt within it a mass resembling earthworms. These may be few or many. There may be no other signs (other than the enlargement of the scrotum) or symptoms. The scrotum also usually hangs very low, particularly on the left side, and in pronounced cases or in nervous individuals there is a sensation of weight and a dull dragging sensation. Sometimes an aching pain is quite pronounced. There may be tenderness in the veins of the parts involved, or of the spermatic cord or of the testicle.

There are several reasons why varicocele is more commonly found on the left side. First, the left cord is longer than the right; second, the left spermatic vein opens at right angles into the left renal vein, which does not favor ready return of blood on that side, while the right spermatic vein empties at a pronounced angle; third, the left spermatic vein runs behind the sigmoid colon, with the result that in con-

stipation there is pressure upon and obstruction of the vein, which produces the stagnant circulation in the scrotum. Therefore the person who is habitually constipated is much more likely to develop varicocele than the one whose bowels are functioning normally.

Long standing does not have the effect of producing varicocele, unless there is defective circulation or general weakness and lowered tone of the tissues. One who is physically active and energetic may remain on his feet for long hours daily without the development of varicocele, provided other factors also do not tend to produce it. General debility and lack of nerve- and muscle-tone is one of the prominent causes and is necessary, in fact, to the development of a pronounced degree of the condition. Another important factor is continued or frequently repeated congestion of the parts due to too much sexual excitement, especially in early life. Masturbation, through its effect in causing frequent engorgement of the veins and a state of more or less general debility, may be a factor in the development of the condition. Many believe that all cases of varicocele result from masturbation or some sexual excitement, but this is far from a fact.

Sometimes a truss worn for the relief of a hernia may cause varicocele. Sometimes the hernia itself will result in the condition through direct interference with the return circulation. Any other type of tumor located in this region may have a similar effect. Lifting of heavy weights, especially when certain of the abdominal structures are not on guard, may produce it; also sedentary habits.

In a great many cases worry has done more to reduce the general health than has the varicocele itself. There is no occasion to worry over the condition, and nothing need be done in the very mild cases. Some cases become so pronounced, however, that there is failure of development of the

involved testicle; or if there is development it may gradually atrophy because of the failure in its circulation. In this case there is more or less "sickening" ache in the testicle itself during the process of atrophying. In these cases the testicle function becomes much impaired, but the other testicle may maintain normal sexual vigor and productivity.

*Treatment.* Since it is poor general tone, vigor and circulation that make the condition possible, whatever factor or factors may have been responsible for its immediate development it is necessary that the treatment include those factors which have to do with building up the body and the quality and circulation of the blood to the highest degree possible. One of the most important of all factors of treatment is cold applications. The cold sitz-bath is the best single factor in the treatment of this trouble. Sometimes through the draining of the vessels by the cold bath and the improved local tone, there will be an eradication of the trouble if causes have been removed. In any case, however, the cold will have the effect of removing the feeling of tension and bearing down so common to this affliction.

The hot sitz-bath should not be taken in this condition unless there is pain or unless there is inability to react from a cold sitz-bath. In this latter case, the hot sitz-bath may continue for a minute or two in order to improve reactive powers. The cold sitz-bath may and should be taken morning and evening. The colder the water the more valuable will the treatment be, but reaction is necessary, of course. At any time the hot sitz-bath is taken, it should always be followed by the cold sitz.

Another excellent bath is taken as follows: Seated in three or four inches of cold water in an ordinary bath tub, after two or three minutes use the cupped hands in the order of a water wheel between the flexed knees to splash the water

quite vigorously against the scrotal area. A modification of this treatment is to have the arms on the outside of the legs (knees flexed), which gives a more pronounced splashing effect against the perineal region. Still another very excellent cold water treatment is the cold spray with a portable hand spray.

While seated in the bath tub, or while supported over the side of the tub (so that the hips are suspended inside and the back leaned against one side of the tub while the knees support the body on the other side), one may play the cold spray as long as desired with less chilling effect upon the body as a whole, thus resulting in more prompt reaction. After this spray has been given to the scrotal, perineal, and lower abdominal regions, it may be given also to the lumbar region of the spine. This is the sex center of the spine, and treatment at this region will have a good tonic effect upon the circulation throughout the sexual system and pelvis. The alternating hot and cold sprays may be given to this region with benefit, terminating with the cold.

Exercise is very necessary for the correction of this trouble. While standing may aggravate the condition, walking and running will tend to drain out the veins of the scrotum through the effect upon the entire general circulation. Running while in one place, rope-skipping, moderately fast walking and running, or any one or more of these should be included in every system of treatment for this trouble if there is no contra-indication. Other exercises of value are those taken reclining, either on the level or, especially, on the slanting table—such as were recommended for rupture. One may lie on the inclined table several times daily without exercise, but at least once a day exercise should be taken, mainly on the back, but also some movements face down—all taken head down.

Diet is of considerable value in this condition also. It is important that a diet providing ample bulk and laxative foods be provided so that bowel functioning is maintained at normal or is re-established. The milk diet is one of the best diets for the condition. It gives the blood all the elements that are required, but it gives ample fluid also, and the circulation in general is pronouncedly increased on this diet. This is what is required for the correction of varicocele. Naturally if the milk diet is constipating, the enema must be used, or bran, bran muffins, figs or prunes in sufficient amounts to secure at least two good evacuations daily. If the milk diet is not used there should be considerable milk in a diet otherwise composed of natural foods.

The wearing of a supporter with elastic straps is advisable when there is pronounced distension of the veins, or when there is tenderness and pain or a dragging sensation. Within a comparatively short time these sensations will be reduced, but it does no harm to wear the support. After the cold water treatment by any of the methods suggested above, the sac of the supporter may be wrung from cold water before putting it on. This, with the outer clothing, has somewhat the effect of a heating compress.

One remaining leading factor of treatment, and in some cases the most important of all, is the avoidance of sexual excitement and erotic thoughts. So long as physically or mentally one is maintaining a congestion of these parts, it is impossible for any combination of treatments that do not include surgery to correct the trouble.

Keeping the mind on other subjects and free from worry over the existing condition, adopting a blood-making diet of vital foods only, with ample fluid, exercising sufficiently to develop good muscle tissue and muscle-tone, securing enough relaxation that there is no enervation, and also employing

local treatment, will do wonders in this condition and often in time will completely restore the parts to normal. Whether or not they have this perfect effect, they will prevent aggravation of the condition, will remove unpleasant sensations resulting from it, and will maintain functioning of the sexual glands.

THE END





